This is a combination of checks and adjustments from a couple of sources. One of those sources is not T25-specific, so the adjustment values should be taken from the VW factory manual, but the adjustment procedures and checks seem to apply to all variants.

I can't guarantee that these checks and adjustments are all totally correct, since I may have misinterpreted some instructions, but I applied all of these adjustments to a carb of unknown origin, that wasn't performing well even after a rebuild kit, and now it runs perfectly.

**Manuals and guides:**

*VW Workshop Manual:*
http://syncrosport.com/info/manual/VW_Transporter_80-92_2E3-2E4.pdf

- The official guide – the link is to Syncroandy's website

*Pierburg 2E3 Functions:*
https://www.dropbox.com/s/ig2hs3e4bdxlht1/Pierburg 2E3 Functions.pdf

- Has some nice cross-section diagrams to illustrate the various stages of operation. I've not seen these illustrations in any other document.

*Pierburg 2E3 Maintenance and Repair:*
https://www.dropbox.com/s/xngeu48yd5pyugx/Pierburg 2E3 Maintenance and Repair.pdf

- Has various adjustment procedures, and a handy troubleshooting section at the end. This appears to use many of the same figures that are in VW's workshop manual, but the description seems somehow more accessible in this document.

*Pierburg 2E3 Channel Identification:*
https://www.dropbox.com/s/s8yex3i75dyv6fk/Pierburg%202E3%20Channel%20Identification.pdf

- Illustrates the various jets and passageways.

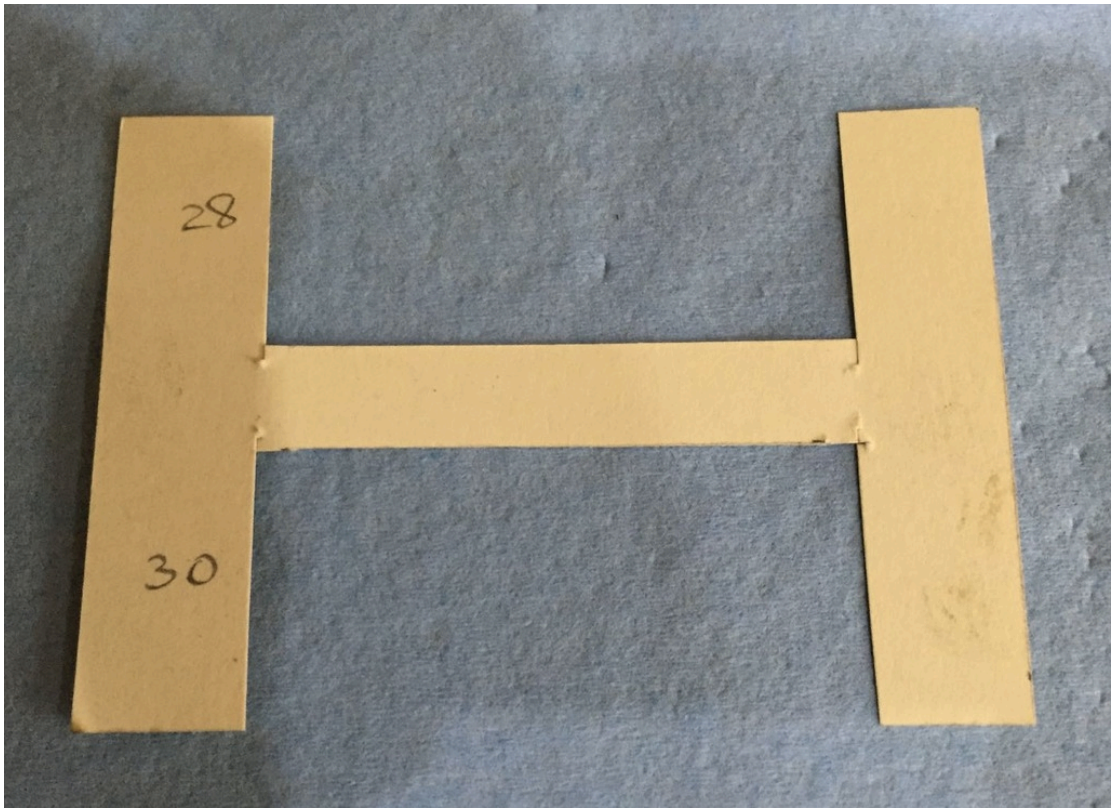
**Off the vehicle checks and adjustments:**

1. Accelerator pump volume: 1.35ml +/- 0.2ml (or 1.0ml +/- 0.2ml for automatic gearbox)
    - Measure by turning the jet over the side of the carb and measuring a few pumps into e.g. a syringe

- Adjust with cam – left for more, right for less.  Possibly bend (straighten) pump arm to eliminate gap/slack

2. Accelerator jet aim
    - Turn jet back over slot – adjust Up/down as well as left right so that jet of fuel squirts cleanly.

3. Float level.
    - Use H-template to measure distance above top plate surface when inverted and held at 30 degrees above horizontal. 28-30mm (see note on rebuild kits at the end).



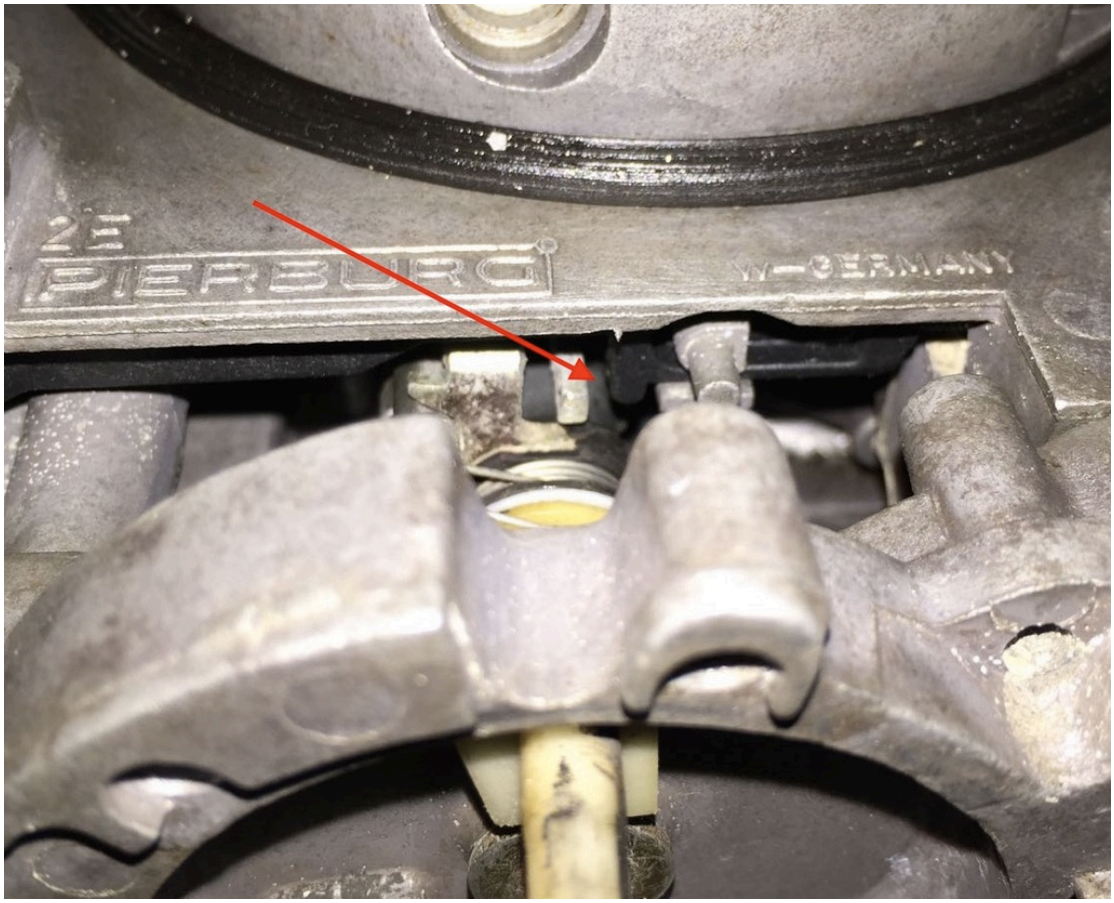


4. Check that float valve seals
    - finger over return spigot, blow into inlet spigot, operate float.

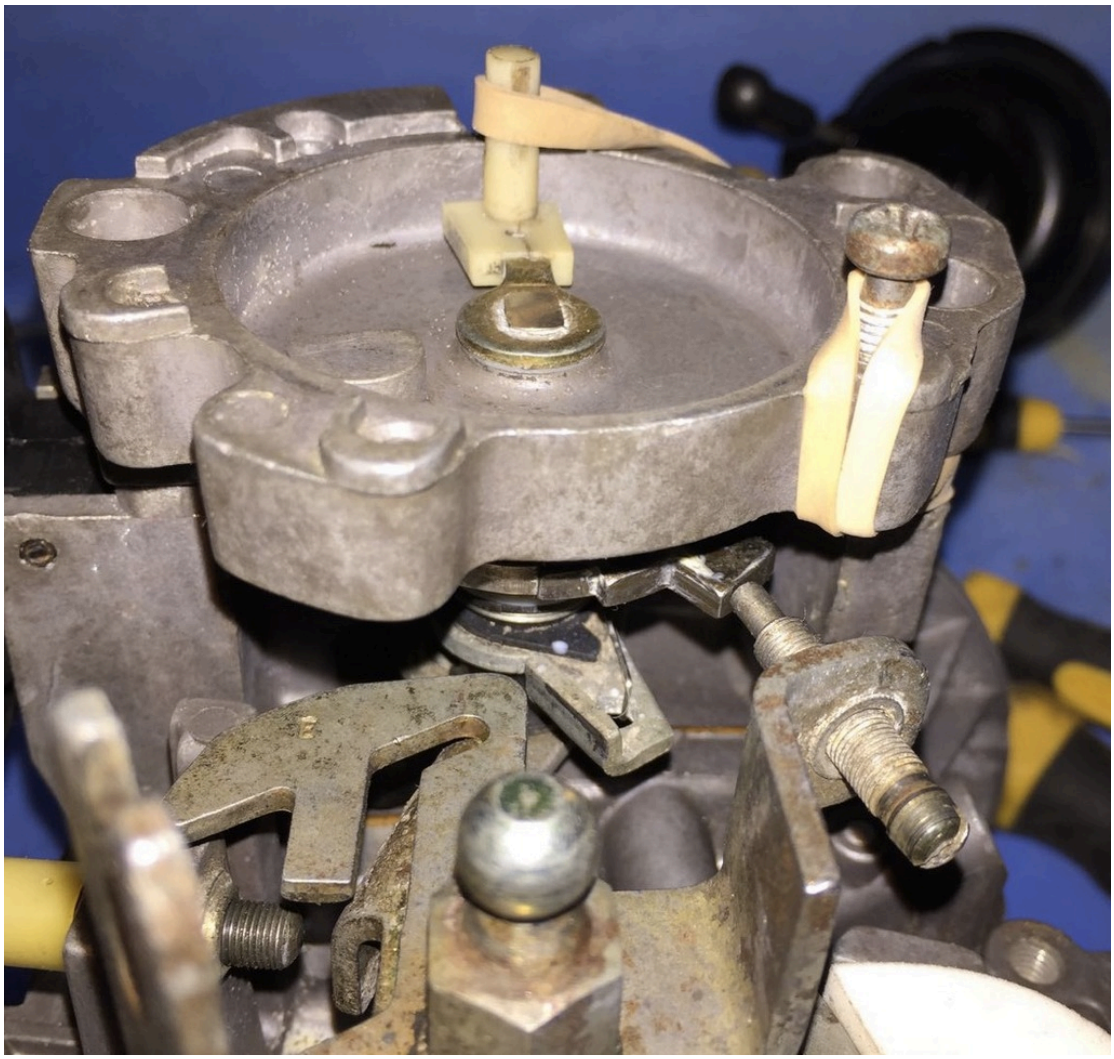
5. Check and adjust position of fast idle screw on stepped cam
    - should drop to near the edge of the second highest step
    - Bend arm to adjust

(photo to follow)

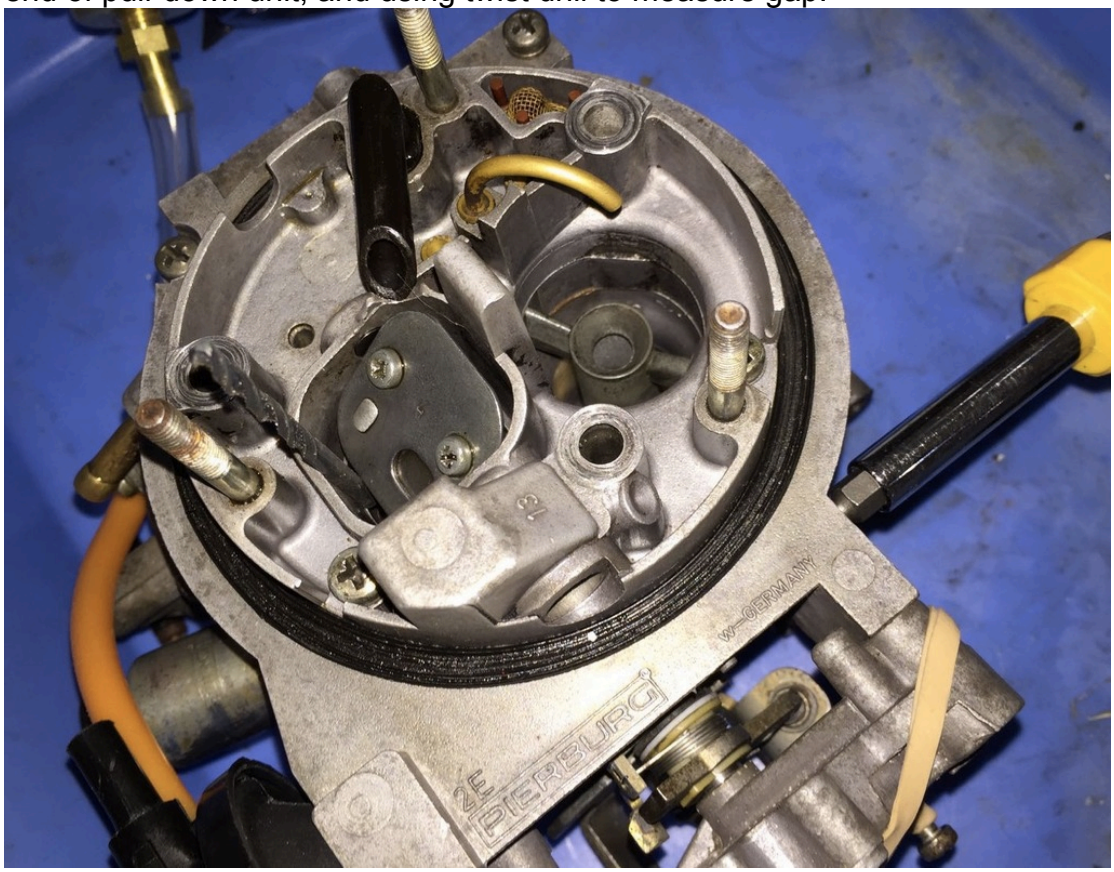
6. Adjust pull-down end stop: 0.5 to 1.0mm
    - Bend arm to left of the gap to adjust



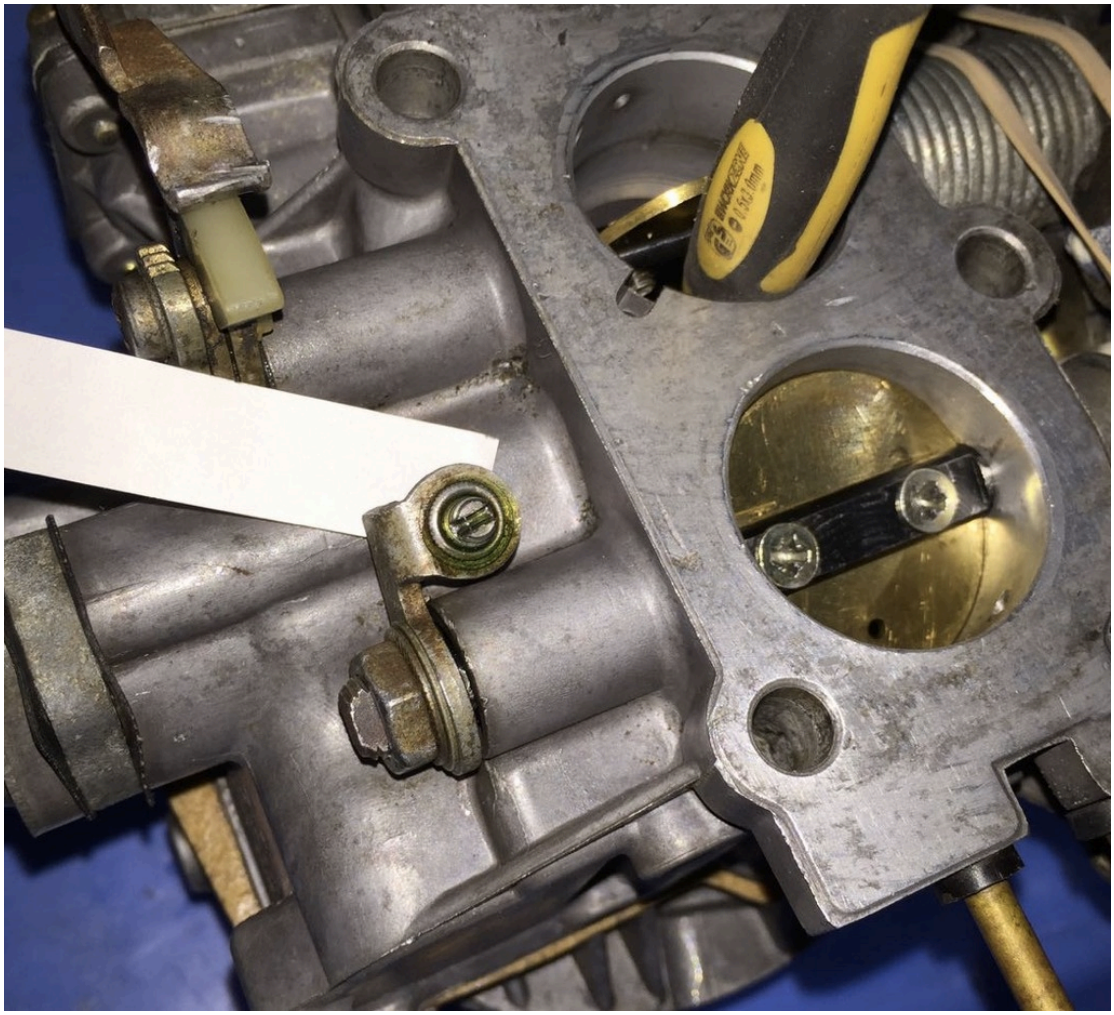
7. Choke flap gap: 2.5mm +/- 0.2mm (varies with carb suffix – see VW manual)
    - Use a rubber band to mimic the tension of a cold choke spring, then operate the throttle to set the fast idle screw onto the top step of the cam.



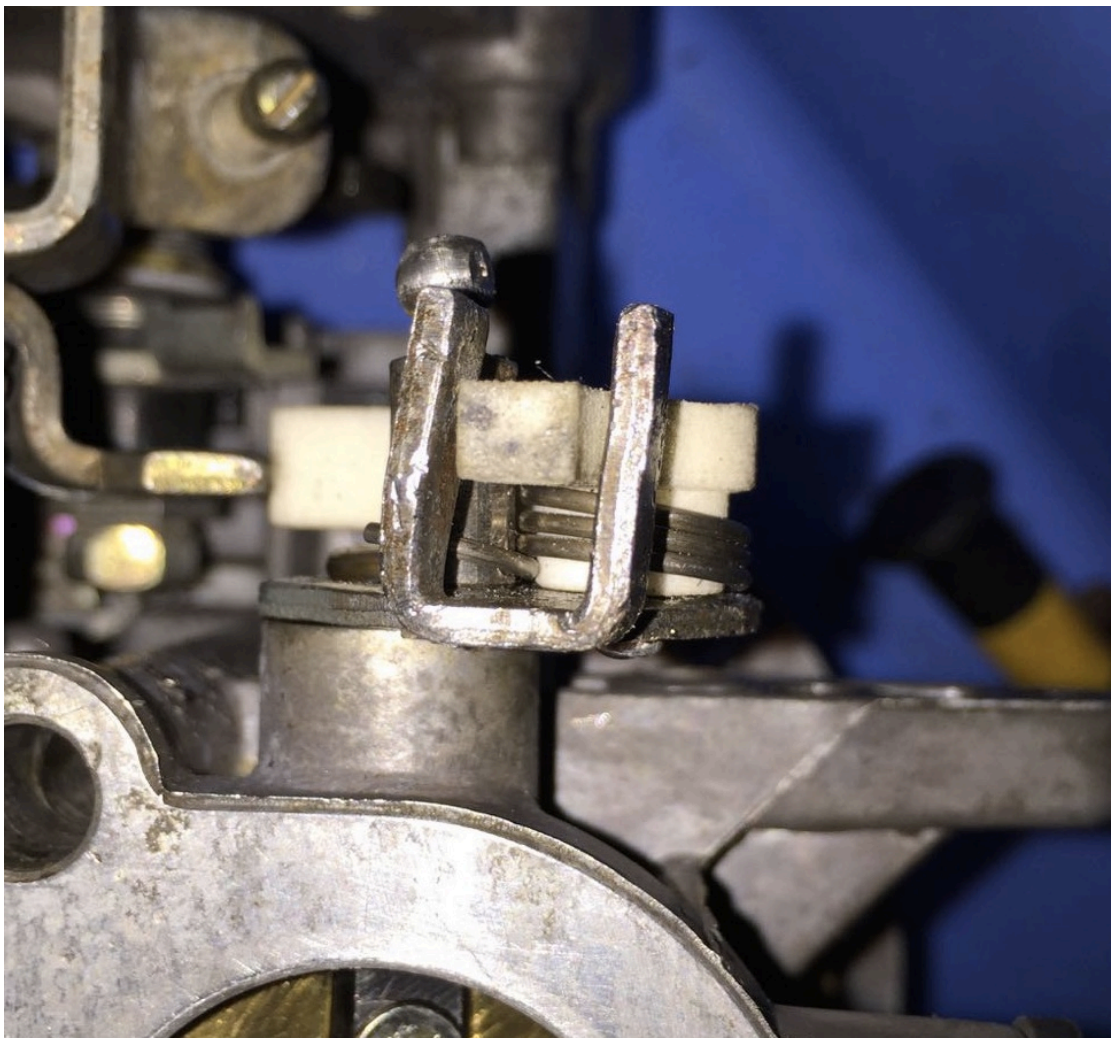
Push fast idle cam, or provide vacuum to pull-down unit, so that fast idle screw drops to next step on cam.  Adjust choke flap gap by turning screw in end of pull-down unit, and using twist drill to measure gap.



8. Stage 2 throttle end stop:
    - Open primary throttle and wedge with small screwdriver
    - Use rubber band to force stage 2 throttle closed
    - Turn end stop screw until it just grips a thin piece of paper, then turn a quarter turn more
    - Lock with paint or threadlock



9. Stage 2 throttle ‘locking lever’: 0.4mm +/-0.15mm on either side
    - Bend arms of u-bracket to adjust
    - (NB Photo shows aftermarket replacement locking lever)



10. Count number of turns required to fully close CO2 screw. Remove screw and clean pointed tip, renew o-ring if necessary. Wind screw in fully, then back it out the number of turns previously counted. If you lose your way or you don’t trust the initial position, then 4 to 4.5 turns seems to be a good starting point.

11. Clean all air/fuel channels, e.g. with small pipe cleaner and an air line. Clean brass jets with a filament of wire, and blow through with an air line.

12. Check operation of idle cut-off valve, and ensure an airtight seal (e.g. in lieu of proper seal use PTFE tape and a couple of 10mm O-rings.

13. Check that throttle body heater draws a current and heats up – take care, it gets HOT.

14. Test operation of vacuum diaphragms: choke pull-down, stage 2 throttle, distributor vacuum advance. All three should ‘hold’ a vacuum, i.e. with a vacuum pump, or by sucking on the vacuum pipe and putting your tongue over the end, the vacuum should not dissipate.

15. Check all vacuum pipes for leaks

16. Check all gaskets are in good condition – grease or petroleum jelly to help them seal when reassembling

**On the vehicle:**

1. Put a few extra turns on the idle speed adjustment screw. Start it up, using ‘cold start’ procedure (fully depress throttle, foot off the pedal, turn key). Fast idle should engage. While the engine is warming up, check the timing.

2. Once warm, unwind idle speed screw a bit to reduce idle speed. Once idling smoothly, wind CO2 screw in half a turn at a time until the engine revs drop, then wind it back out half a turn. Final adjustment of idle speed.

3. Adjust fast idle rpm – instructions to follow.

**A note on rebuild kits:**

After working through these steps I realised that the rebuild kit I originally used on my test carb contained some parts that were not right for my T25 carburettor.  In particular, the float valve was too long, which would have meant that the float level was too low, and the spring in the accelerator pump diaphragm was too weak, meaning that too little fuel was pumped with each stroke, leading to a flat spot most noticeable when pulling away.

Float valves – correct one on left.

Pump diaphragm spring – new one requires over 2kg to move ball bearing, wrong one required only 300g.