The Nutty Professor's Service Manual
Basic Servicing Part (7) – Speedo Cable

When pootling along the queens highway in your beloved VW, and you look down at the one single dial instrument panel, is the needle on your speedo jumping up and down like a stripper at a bachelor party? If so, you need a new speedo cable. The speedo cable is exactly what it's description implies. It's a cable the goes from the centre of the front left wheel to the back of the speedometer. As the wheel spins, it twists the cable which runs in a thin tube, which in turn spins a small grommet in the back of the speedometer. The faster it spins, the high up the needle goes. Simple as that!
However, the thing with speedo's is they are calibrated to work out the speed of your vehicle as it was when it came out of the factory. So if you have a beetle with stock 12 inch wheels, your speedo will read correctly. But if you have adorned your beloved beast with some fat pimped up huge wheels, say 17 inch, the distance the vehicle will travel in one revolution of the wheel is further, because the distance around the wheel is greater. So picture this scenario. You're cruising along the A1M in your beetle, at a steady 70mph, when you happen to catch site of Mr plod, who has pulled up along side you. You immediately panic and look down at your speedo, and are happy in the knowledge that your doing 70mph. Nothing wrong with that… Or so you think. The trouble is you are actually doing 80mph, as the larger wheels mean for every revolution of your wheels you are going an extra 6 inches along the road. So your speedo reads 70mph but you're actually grinning at a now irate copper who knows you're doing 80mph. The result is obvious… An argument with Mr plod at the side of the road. 3 points and a £60 fine.
So be careful. You can get your speedo recalibrated, but it's not cheap! Best way I've found to work out how accurate your speedo is, is by getting your passenger to call the passenger of your mate in his boring Mondeo in front of you on the A1M and ask him what his speedo is reading as you match his speed behind. You can then compare it with what your speedo is reading. Simply.

Once again, as per previous articles, this article is based on Kirsty's 1976 1300 air-cooled VW beetle, but most VW's are very similar.

Speedo Cable – Removal and replacement

Difficulty Rating: Even Jade Goody could do this! (well maybe not)
Approximate Cost: New Speedo Cable = £7 (approx), Grease = £5 (if you don't already have a tub), a new circlip.
Tools Needed: Jack and axle stand (in some cases), wheel brace or bracker bar, gentle adjuster (hammer), circlip pliers.

A foreword: Don't be wearing your best Ben Sherman shirt when attempting this, as you will be getting messy, and when your girlfriend, that bought you the shirt for your birthday finds it lying in a grease covered mess on the floor of the bedroom, your nuts may as well be hard boiled, cos you ain't gonna be using them for a while.

OK, so to begin with park your vehicle on a level surface. If you have after market wheels fitted to your car that do not give you access to the centre dome cap of the wheel, then you'll have to take the wheel off by jacking up the front left of the vehicle. Remember to support the vehicle on an axle stand before doing anything else.
Once you can see the central dome cap in the middle of the wheel, you will see a small thing jutting out the centre of it. That's the speedo cable. It should be held in place by a circlip, although there is more chance of getting laid in a convent than the chances of this actually being present. If the circlip is there, use your circlip pliers to remove it. It will probably spring off in the air and disappear down a black hole, and by the time you've wasted 45 minutes looking for it, you'll wish you'd just bought a new one.
Once the circlip has vanished, you've got to remove the dome cap. You may be able to pull it off by hand, if it's worked it's way loose on it's own. However, this is unlikely. The best way to get it off is to gently tap the cap from side to side with your gentle adjuster (hammer). Do not hit it hard! Simple taps with a normal hammer are sufficient. Going at it with a 13 pound sledge hammer will only end in tears, and as is usual, a trip to casualty with missing knuckles which will be left hanging off the edge of the front wheel drum/disk.

Once you have removed the central dome cap, you will see the speedo cable poking out the centre of the hub. Don't try and pull it out! The next thing to do is disconnect the other end of the cable at the speedometer.
In a beetle, you access this by firstly removing any crap you have piled up under the bonnet, and then pulling out the cardboard cover that lines the luggage area and hides all the wires behind the dashboard. Once this is out of the vehicle you will see a nightmare spaghetti junction of wires. Somewhere behind this lot and maybe slightly obscured by heater pipes you should be able to see the back of the speedometer. The speedo cable is attached to the back of the speedometer by a circular securing nut that encompasses the cable. You should be able to undo this with your fingers. Once undone, the cable will pull out of the speedometer. You must now remove the speedo cable from the mass of wiring behind the dashboard. Be careful not to pull, disconnect or otherwise damage any of the wires when pulling the cable out. Otherwise you may find your headlights, indicators, brake lights, or god forbid, your stereo don't work!
To remove the cable completely, it must come out from the speedometer end and not the wheel hub end. Spending hours trying to pull it the other way, will be funny to the casual observer, but serve you no purpose other than to wind you up and get you covered in grease. The speedo cable consists of a thin cable running through an outer protective cover/pipe. The cable should have plenty of grease running through it to ensure it is able to run smoothly. This however, means that when removing it, the chances of getting grease all over the place are nothing short of definite. Reach behind the front left wheel hub and pull the cable out of the hub from behind. You will notice that the six to eight inches of the cable nearest the wheel is not covered with the protective cover and thus messy with grease. Once this is pulled out, you should then be able to pull the entire cable and outer pipe out from inside the bonnet.

Now it's time to put in your new cable. Simply push the cable through from inside the bonnet (where it goes through the bodywork of the inner wing. Then make sure there is plenty of grease on the last six inches of the cable before threading it through the centre of the hub from behind. Then make sure the cable is lying in position correctly under the bonnet. It usually runs around the edge of the petrol tank and then up to the dashboard. Carefully thread the cable through the maze of dashboard wires and connect it to the back of the speedometer. Almost done.
Now back at the wheel end, make sure the cable is poking out of the centre of the hub enough to protrude from the centre of the dome dust cap and carefully refit the cap so the cable pops through the middle. Then give the dome cap a few careful smacks with the gentle adjuster to ensure it is properly in place. Now clip on your new or eventually found old circlip and your done. Al that remains is to put the wheel back on and chuck all your junk back under the bonnet.
Take it for test drive and if you've done it right you should have a nice smooth operating speedometer.

Keep on Dubbin…

Simon (aka The Nutty Prof.)