

The Nutty Professor's Service Manual Basic Servicing Part (2) – Plugs & HT Leads

OK , spring is now truly upon us, so there's no excuse to get outside or in the garage and give a little TLC to your humble VW. Last month we covered mastering the art of "The Oil Change". For those who missed it, these articles will shortly be appearing on the Stevenage VW club web site at www.stevenagevwclub.co.uk .

This month we continue with Basic servicing and look at the ignition system. In particular, the checking and replacement of, spark plugs and HT leads.

This article is based on Kirsty's 1976 1300 air-cooled VW beetle, but most flat four motors are the same.

Ignition System – Spark Plugs & HT Leads Check and Renew

Difficulty Rating: *Easy! If you find watching an episode of X factor makes you want to vomit and throw things at the TV, then you have enough intelligence to do this.*

Approximate Cost: Set of spark plugs = £4.99. HT Leads = £10.99.

Tools Needed: Spark plug socket, flat head screw driver and a set of feeler gauges. (only about a £5 if you need to buy some)

According to VW your spark plugs should be replaced every 10,000 miles or twelve months. When did you last change yours?

Changing the spark plugs in your beloved VW, is one of the simplest of all servicing tasks, and can also tell you a lot about the condition of your engine.

Firstly pop to your local branch of German, Swedish & French (Hitchin) and purchase the bits you need. These cost very little and the benefits of a knowing your little engine is running with all new bits is the dogs danglies.

Start with your engine cool, or at least give it half an hour to cool down before trying to work on it. Kneeling down behind your engine bay and working on your engine when it's hot is not fun. You will first notice this in the form of intense heat around your crotch. You will then realise that your nuts are resting on the still glowing hot exhaust! And silk undies have a surprisingly low melting point!

So having let your engine to cool a little, a quick piece of advice before you start. DO NOT unplug more than one HT lead at a time! If you do this, you'll just add another hour onto your maintenance time while you work out which one goes where. Or worse still, you'll put them on wrong, and start your engine, which will then sound like a skeleton having a wank in a biscuit tin, as the plugs all fire in the wrong order.

What are HT Leads?

HT leads carry a current of electric (a spark) from the distributor to each individual spark plug. If you were to remove an HT Lead from one of your spark plugs and hold onto the end, while a friend (soon to be enemy) starts the engine, you would see the kind of current that is generated. It hurts so don't do it! (funny to watch though)

Right, lets get started. Firstly the spark plugs. We will remove, examine and replace each spark plug in turn, starting with No.1 cylinder. So what is No.1 cylinder I hear you ask. Simply. As you stand at the back of the vehicle looking into the engine bay, No.1 cylinder is the one furthest away on the right hand side of the engine. No.2 is on the same side. (Picture 2) No.3 is the furthest away on the left side of the engine and No.4 is closest to you on the left.



Firstly pull off the HT lead from the No.1 spark plug. Obviously make sure your engine is not running and your ignition is turned off. Now I know that the access to the No.1 cylinder spark plug is less than great. Well to be perfectly honest, it's like trying to find the clitoris in the dark after ten pints and a vindaloo. If your engine happens to be blessed with twin carbs, you may as well resign yourself to some skinned knuckles and a lot of groping around in the dark. Once you have the HT lead off the spark plug, grab your

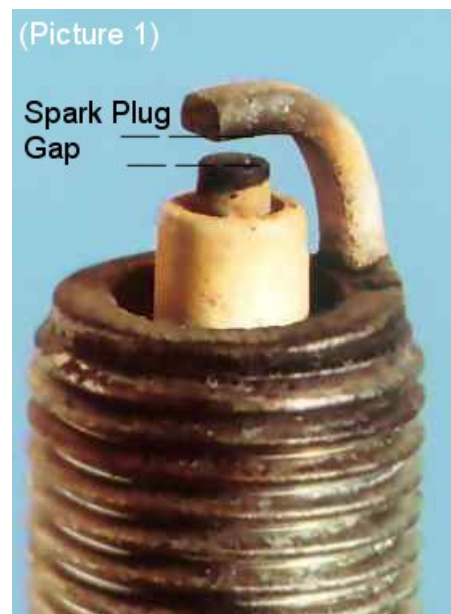
spark plug socket and ratchet. You will need to attach the universal joint to your ratchet to be able to get it in the confine of the engine bay. If you don't know what the universal joint is, it's the bit that goes in every direction, sort of a bisexual joint if you like.

The spark plug socket has a little rubber bit inside it to prevent any damage to the spark plug when removing it. You will probably find that once you have loosened the plug a couple of turns, it is far easier to unscrew it with your fingers, rather than using your ratchet like some kind of gynaecological instrument poking around in the dark. Particularly as you'll be doing most of this by feel alone, as the chances of squeezing your head into the engine bay to see what you are doing is negligible, and would probably result in the fire brigade having to cut your car off your head.

Once you've removed the spark plug and have hopefully not dropped it behind the fan housing somewhere, take a look at the end of it. (P.S. it might

be bloody hot if you've been driving your car in the last twenty minutes) It should look a brown(ish) colour. This is the sign of a good engine. If the spark plug is covered in oil, your engine is probably a little worn, and if it is covered in black soot, the engine is running too rich. You can tell a lot about the health of an engine by the spark plugs, but that's a whole other article. For a good guide on the condition of spark plugs, look in any Haynes manual. They always have a picture guide for spark plugs. For now we are just concern with replacing the spark plugs.

Take your new spark plug and before screwing it into the engine, use your feeler gauges to make sure the gap at the top of the new spark plug is between 0.7mm and 0.8mm (0.028in to 0.032in) This is for a 1300 to 1500cc engine, other engine sizes may differ slightly. (Picture 1). Use a screwdriver to gently increase or decrease the gap as needed. Now screw it into the No.1 cylinder the same as you removed the old one and tighten it with your ratchet. Do not over tighten it.



At this point, pull through the No.1 cylinder HT lead and disconnect it from the distributor cap by simply pulling it up. Now replace the lead with a new one of the same length. Note that there are three different lengths of HT Leads in a set. The two longest ones go to No.1 and 2 cylinders. The shortest one goes from the centre of the distributor cap to the coil, mounted on the fan housing.

Connect the new HT Lead to the distributor cap where the old one was connected (obviously) and them to the new spark plug you just put in.

Simply repeat the same process for each of the other three spark plugs, safe in the

knowledge that No.1 cylinder is always the hardest to get to, so it's all easy from here!

Once you've finished all four spark plugs and HT leads, replace the final HT Lead that goes from the centre of the distributor cap to the coil. This is the shortest of the HT Leads. Now you're done.

Happy VW motoring people. Roll on summer..!!!

Servicing VW Part (3) next month.

Regards,

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