

How To: Replace the spark plugs on a D8 V6.

I thought I'd take the time to write a guide for this, it's a job that can be a bit daunting for us V6 owners, but with some mechanical knowledge & some basic tools it's not as big a job as it sounds.. So, on with the show.

This should take about 2 hours (providing you don't have oil in any of your spark plug wells). If you do, it's going to take longer with you having to mop it up.

Parts I used:

Inlet manifold gasket. Available from Pug or Citroen, part number: 0348.K7 for less than £4.

6 x spark plugs. I chose standard NGK BKR6EZ (ebay search BKR6EZ & click lowest price + P&P)

Some rags

Tools needed:

Mechanics / latex / nitrile gloves

7mm socket

10mm socket

13mm socket

A couple of different ratchets

A couple of different lengths of extension bars

A 7mm allen key socket (far right manifold bolt)

A 5mm allen key (front cover)

A T30 torx socket (front cover)

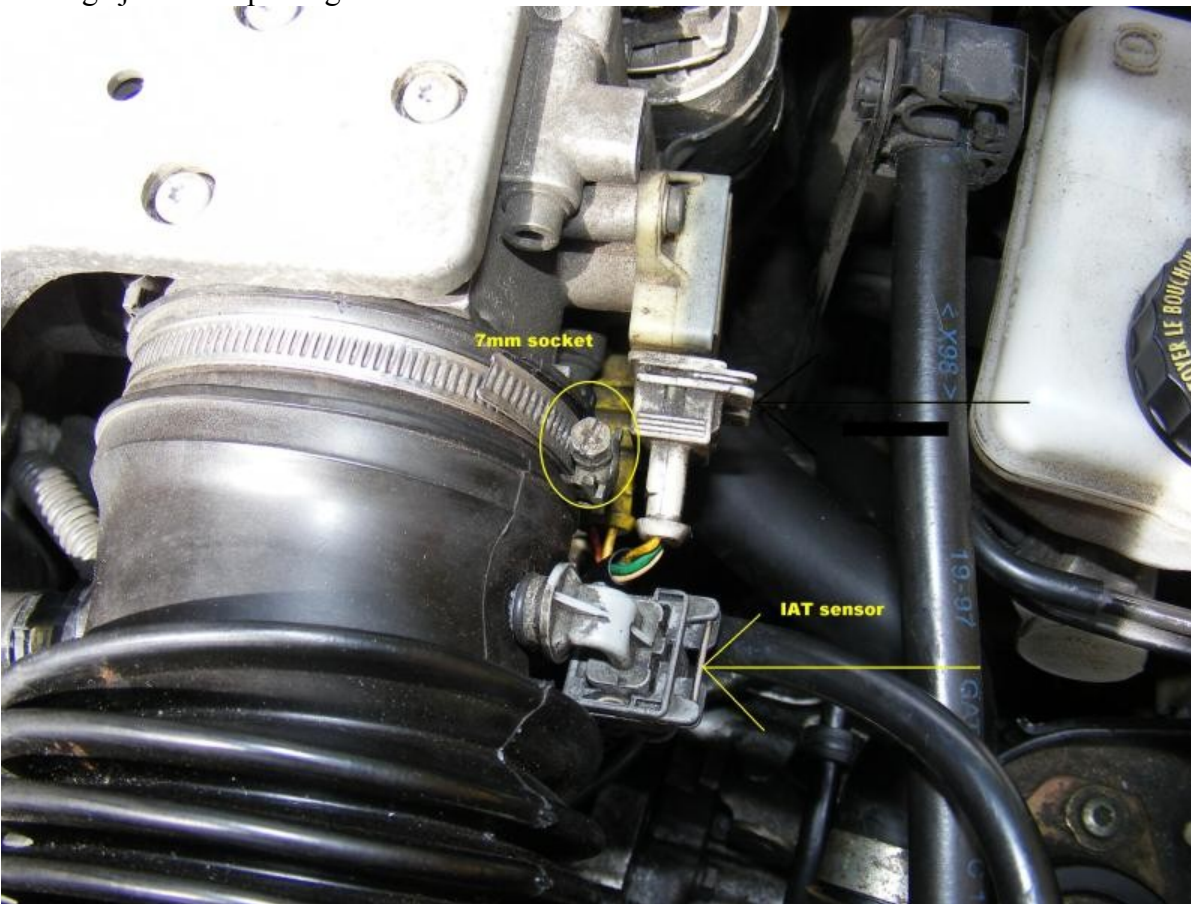
A T50 torx socket (strut brace)

A set of these dog-leg pliers type things:

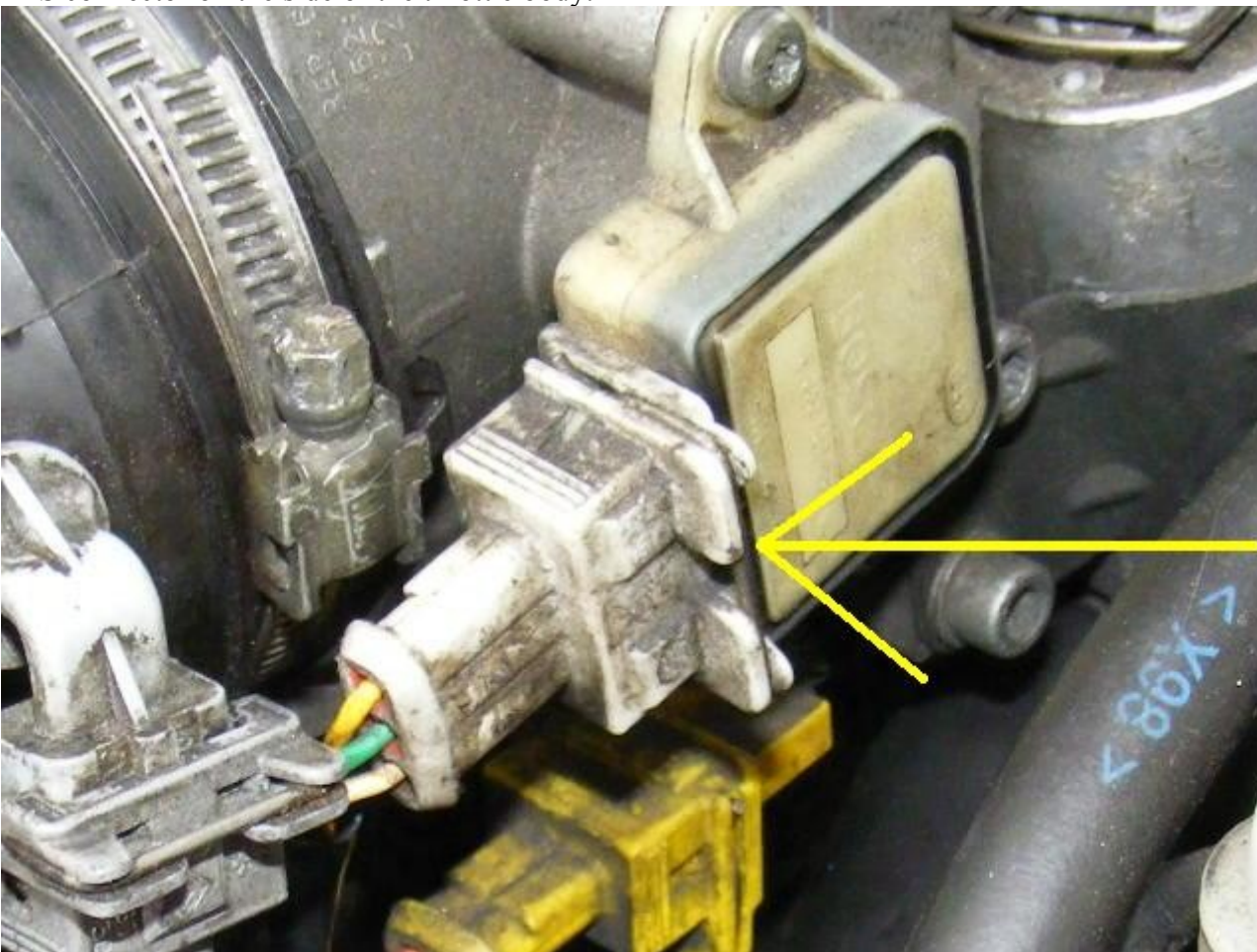




First of all, disconnect the grey IAT sensor connector (underside of the airbox just to the right of the large pipe) & loosen the large jubilee clip using a 7mm socket:

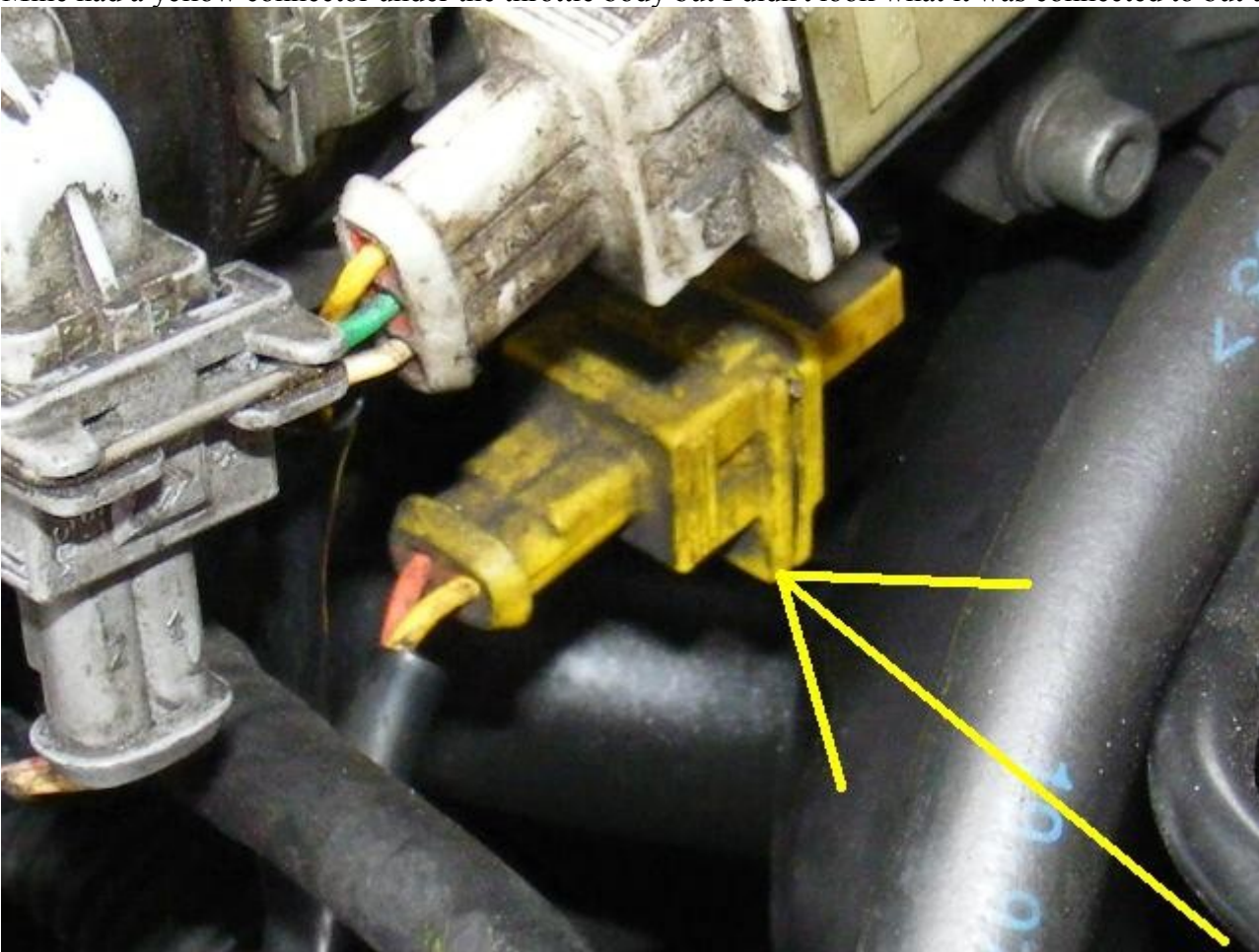


TPS connector on the side of the throttle body:





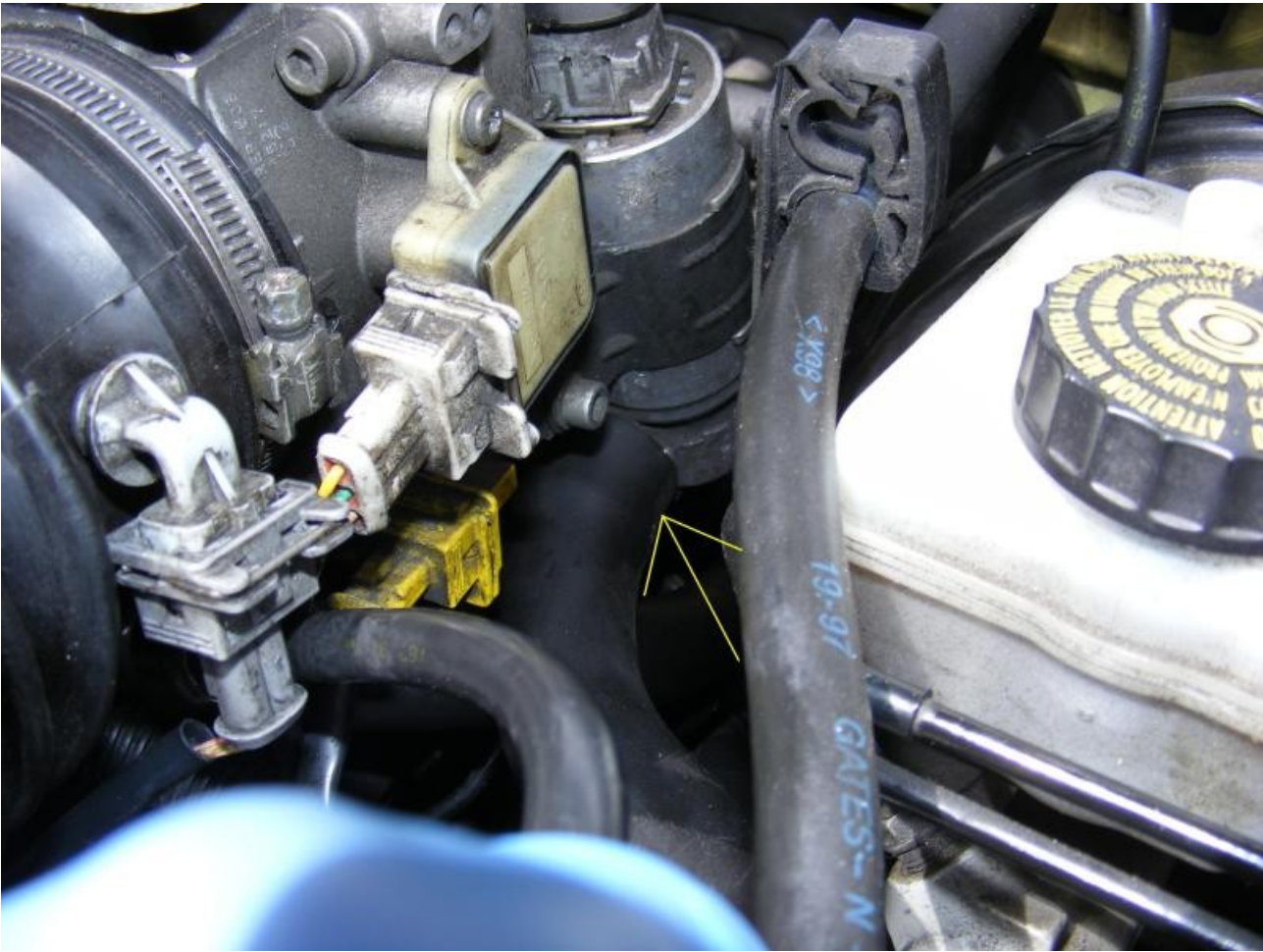
Mine had a yellow connector under the throttle body but I didn't look what it was connected to but unclip it:



Idle stepper motor connector & breather pipe should be pulled off the idle stepper motor:







MAP sensor connector is underneath it at the back of the inlet manifold:





2 air pipes under the throttle body. The pipe on the right just slides off whereas the one on the left has a funny connector that you firmly squeeze & pull off. I forgot to take a picture of just these pipes on their own, but you can see them here (ignore the yellow arrow at this point):

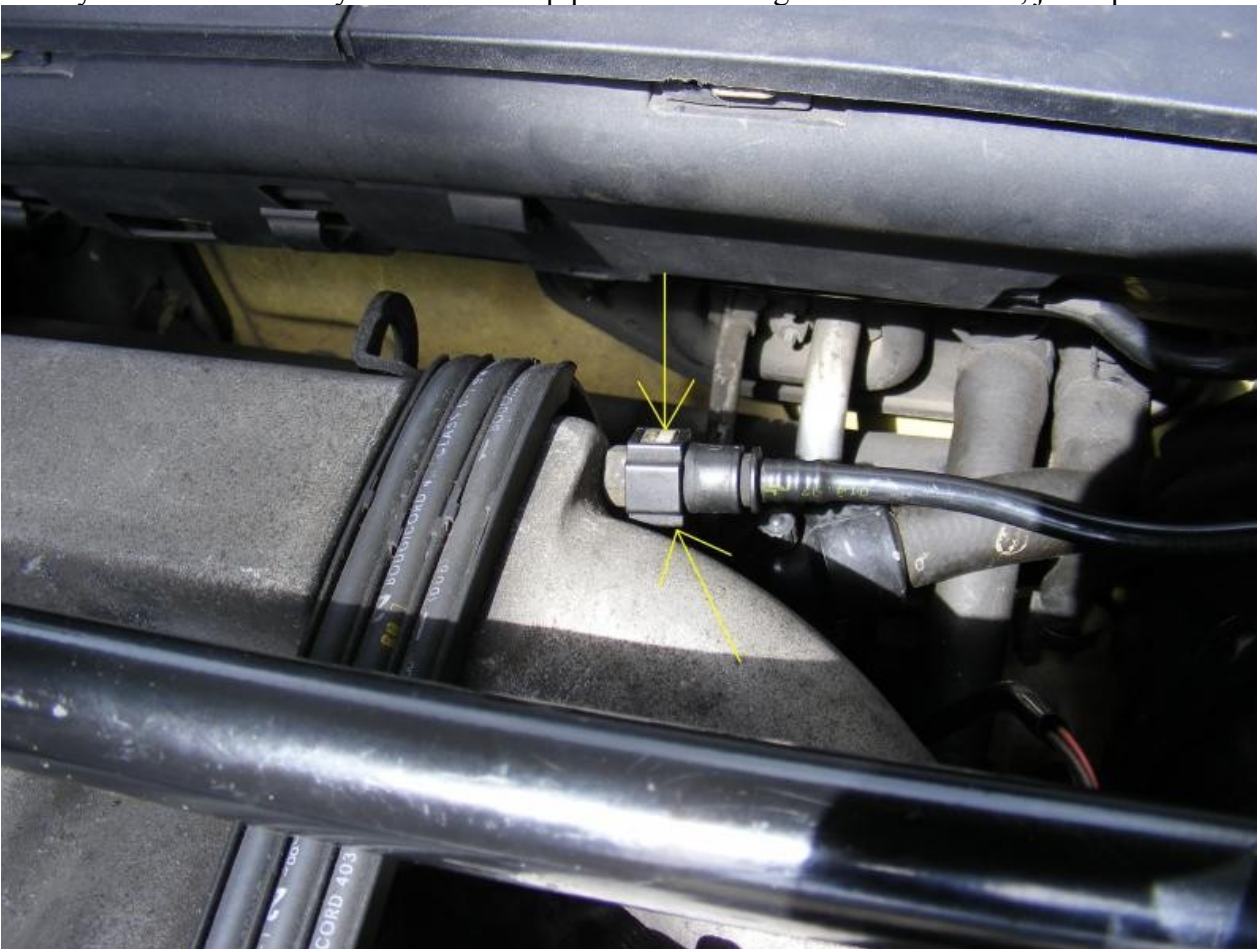


There's also a very thin pipe on the left of the inlet manifold by the large electrical connector, this should carefully be pulled off, engine slightly warm helps as the rubber will be softer:





Finally the brake master cylinder breather pipe on the rear right of the manifold, just squeeze the white sides & pull it off:



Now using a T50 torx bolt remove the 3 bolts either side holding the strut brace in & set that aside. Now remove the 2 x 5mm allen bolts & 2 x T30 torx bolts from the front plastic cover (depending on what yours has), remove the oil filler cap & the plastic cover, now put the oil filler cap back on:





Now pull up those metal clips from the airbox that the 2 hoses are clipped to:

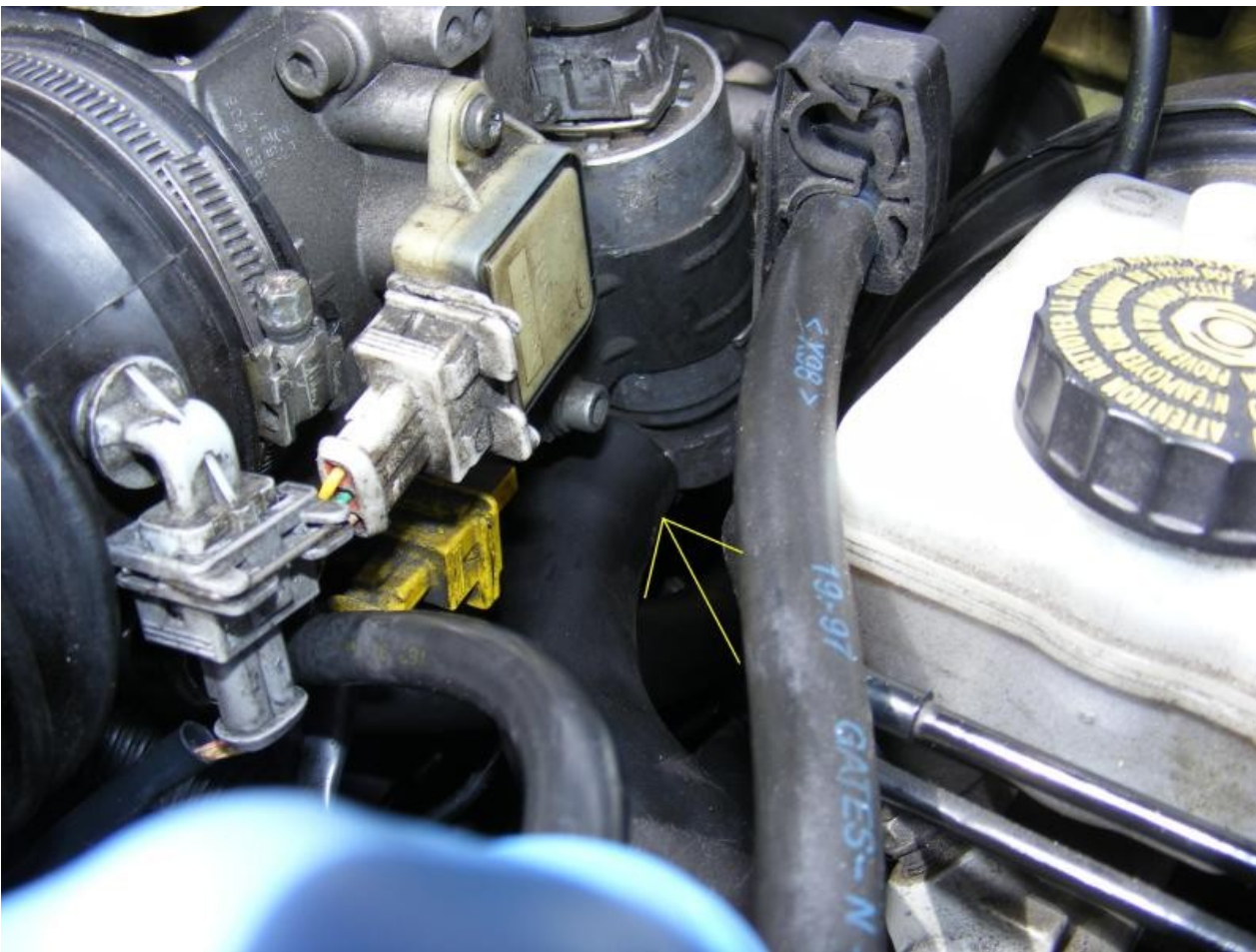


Now carefully remove the airbox & piping being careful to make sure the crankcase breather pipe on the left of the hose comes off ok, the pipe should stay on the engine side, set this out of the way:

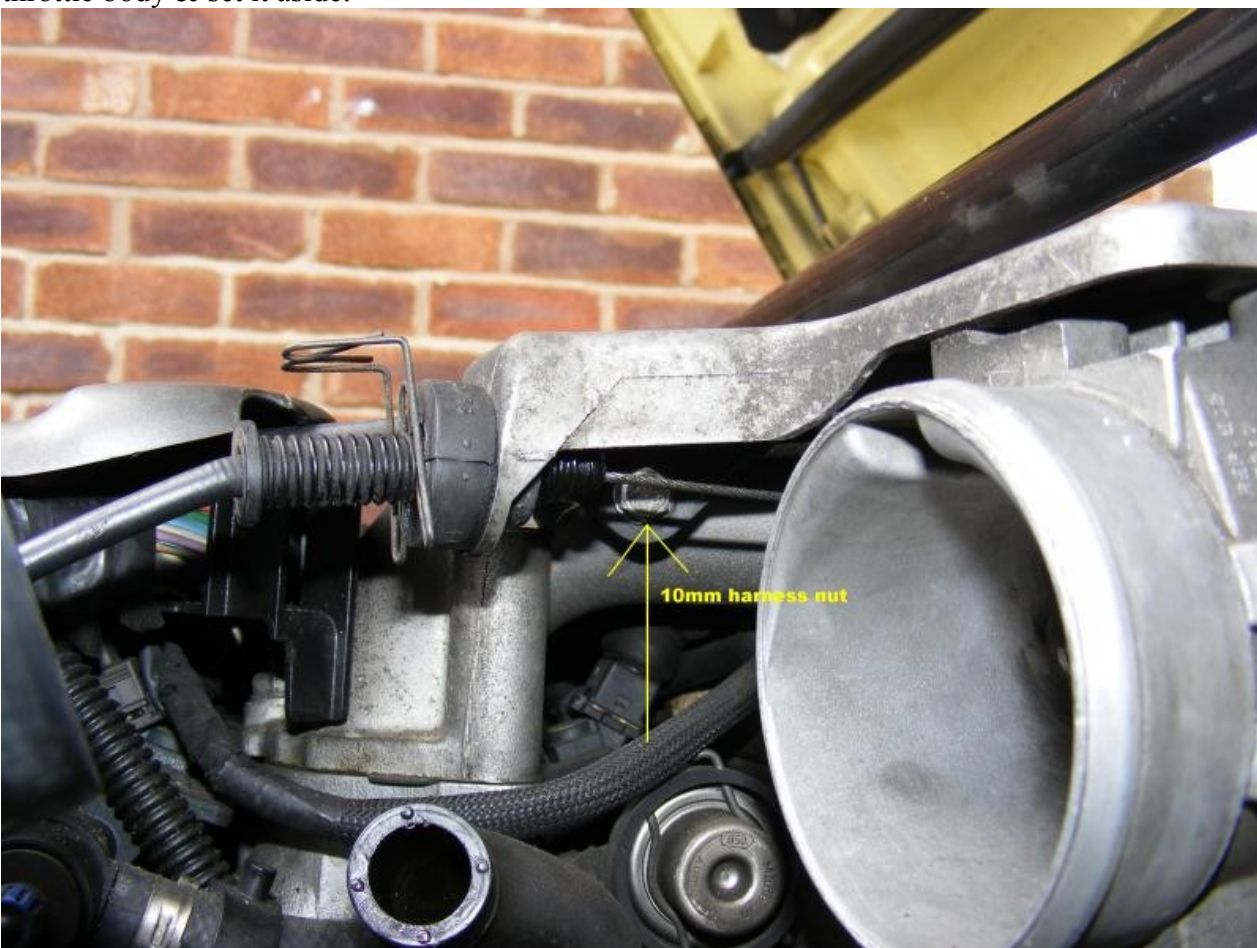




Make sure you've pulled the pipe from the idle stepper motor off with the airbox, you could leave it on but it'll make things easier later:

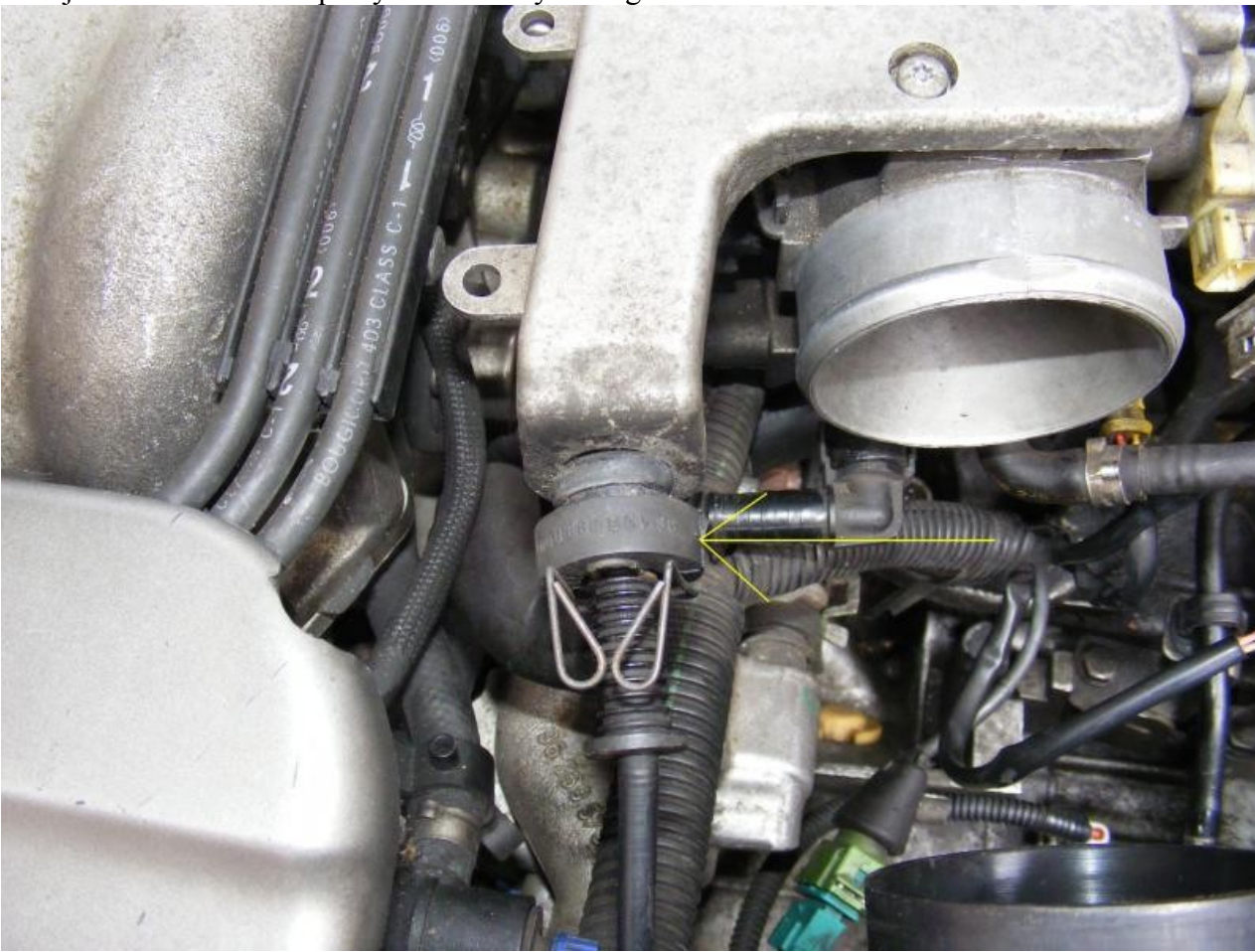


Using a 10mm socket undo the nut just under the HT lead harness to the left of where the accelerator cable fixes to the throttle body & set it aside:

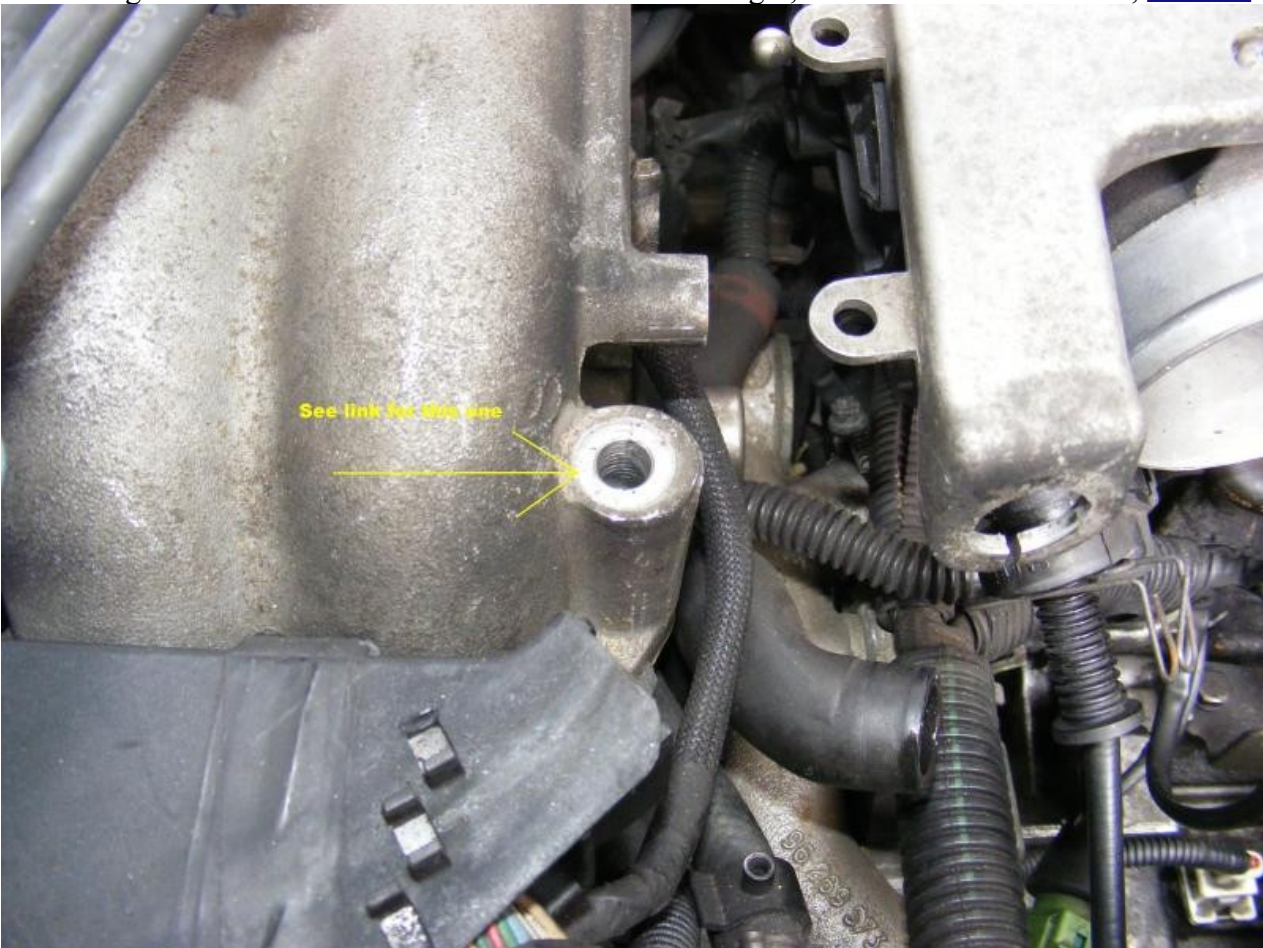




Pull the rubber grommet the accelerator cable housing is running through from outside of the plate housing & lower it through the small gap, this makes it easier to just swing the manifold to one side. This isn't necessary, but it reminds you to adjust it later & take up any slack it may have got:



Now using the allen bolt bit undo the bolt furthest to the right, I made a mess of this one, [see here](#):

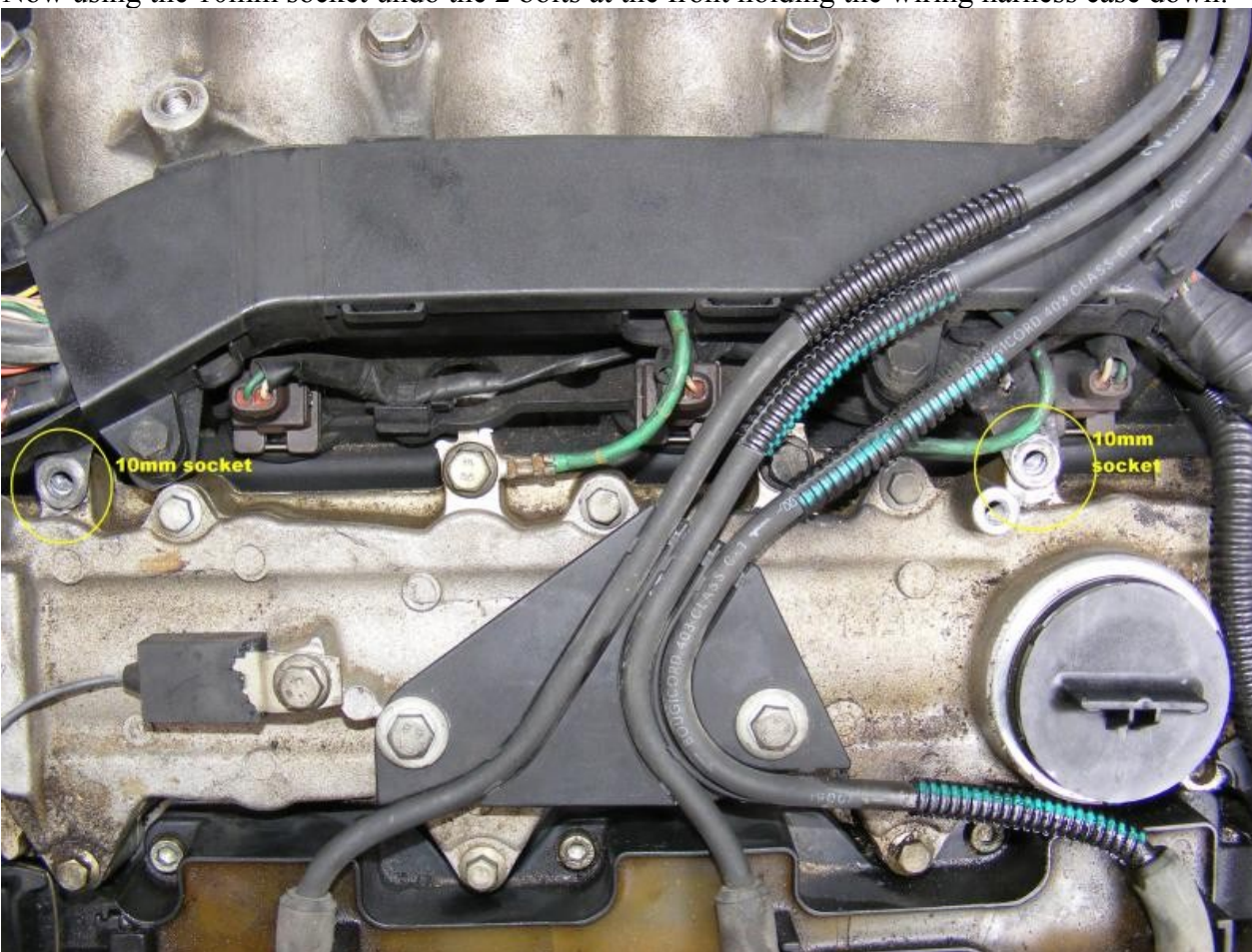




I found it easier to lay the bolts on the floor out of the way in an order as they were when they were removed from the inlet, by that I mean the top 3 bolts in a line, the lower ones under that etc, just so you don't get yourself mixed up:

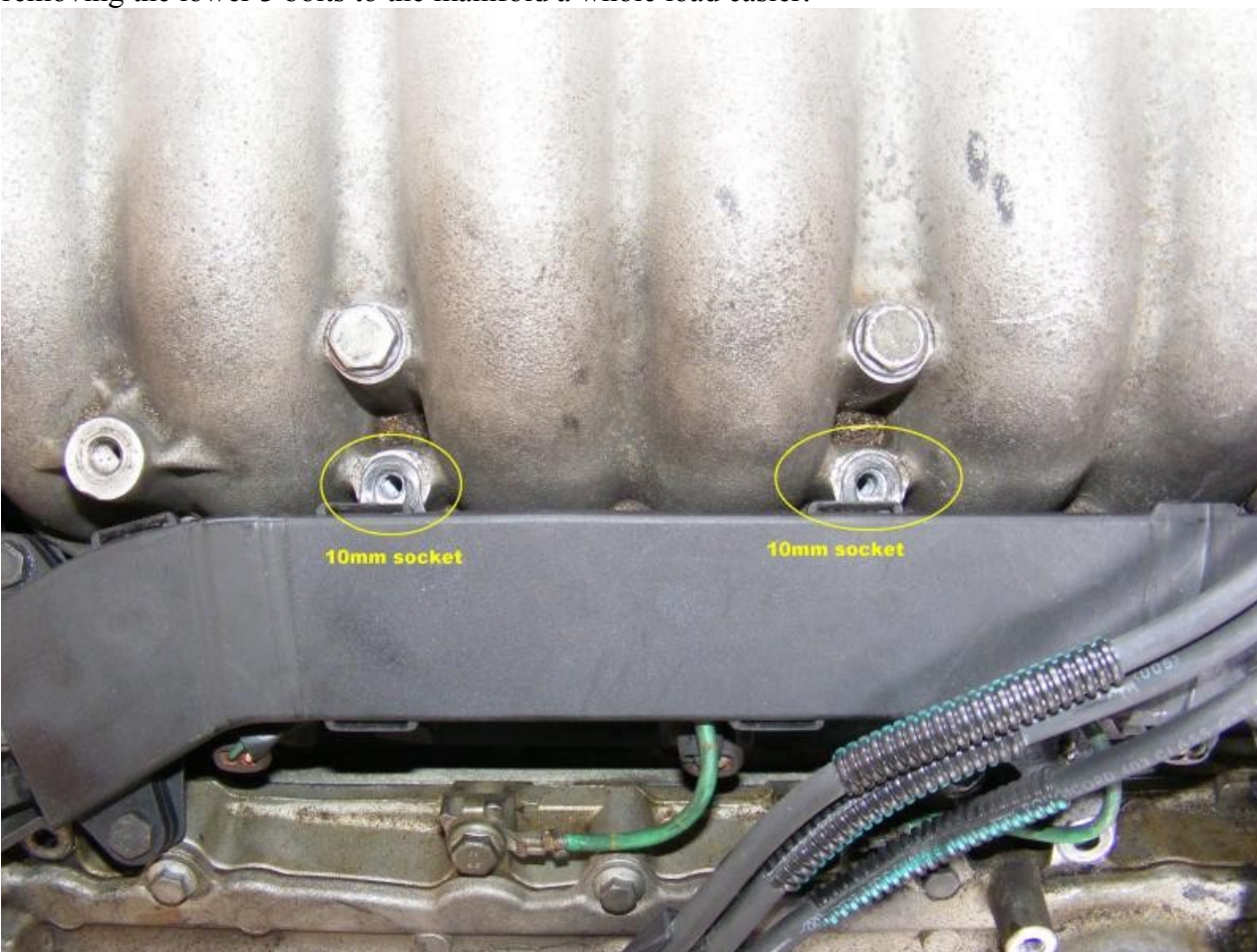


Now using the 10mm socket undo the 2 bolts at the front holding the wiring harness case down:

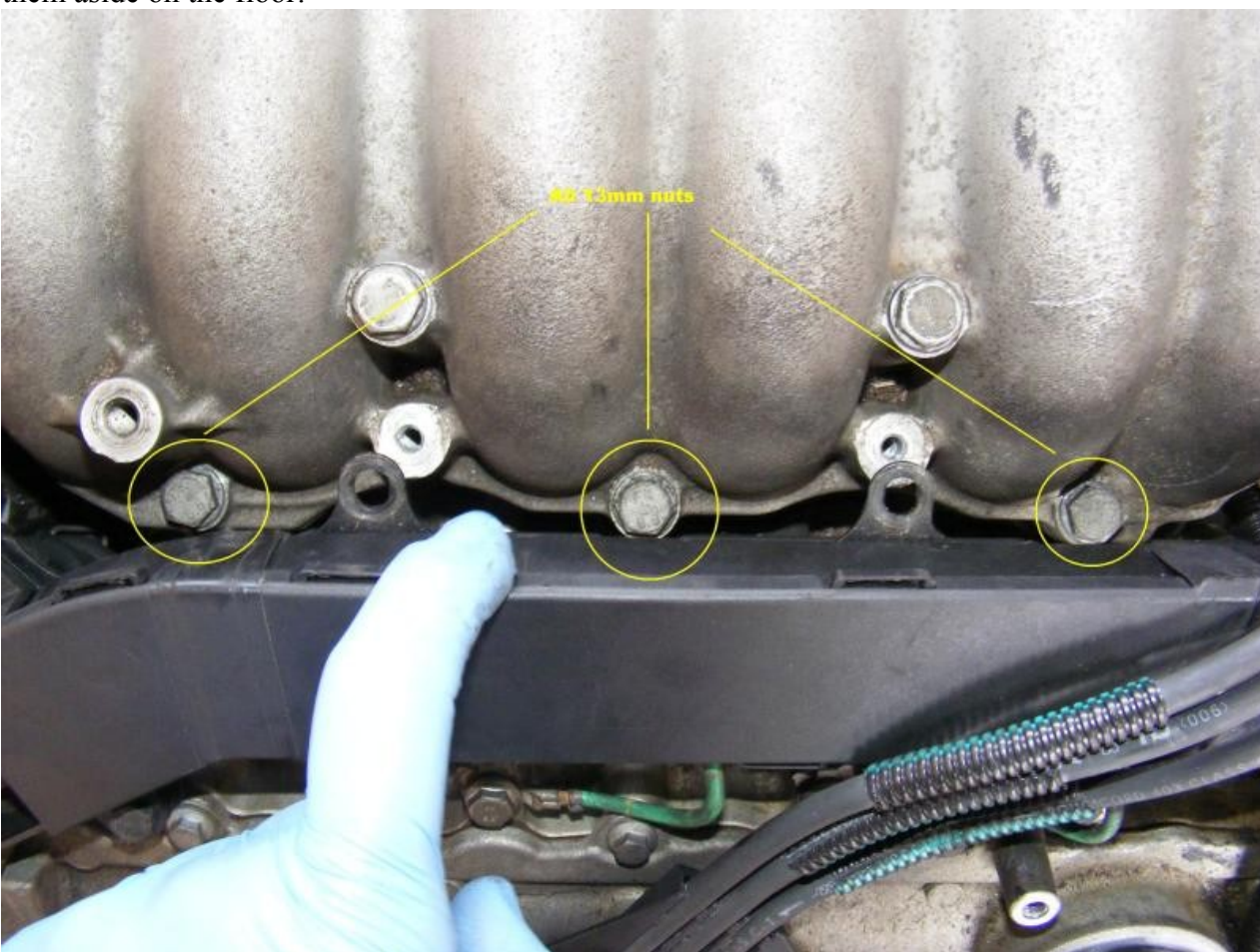




There's 2 types of bolt so make you you do as above, lay them in order. Now remove the 2 behind the harnes. This makes removing the lower 3 bolts to the manifold a whole load easier:

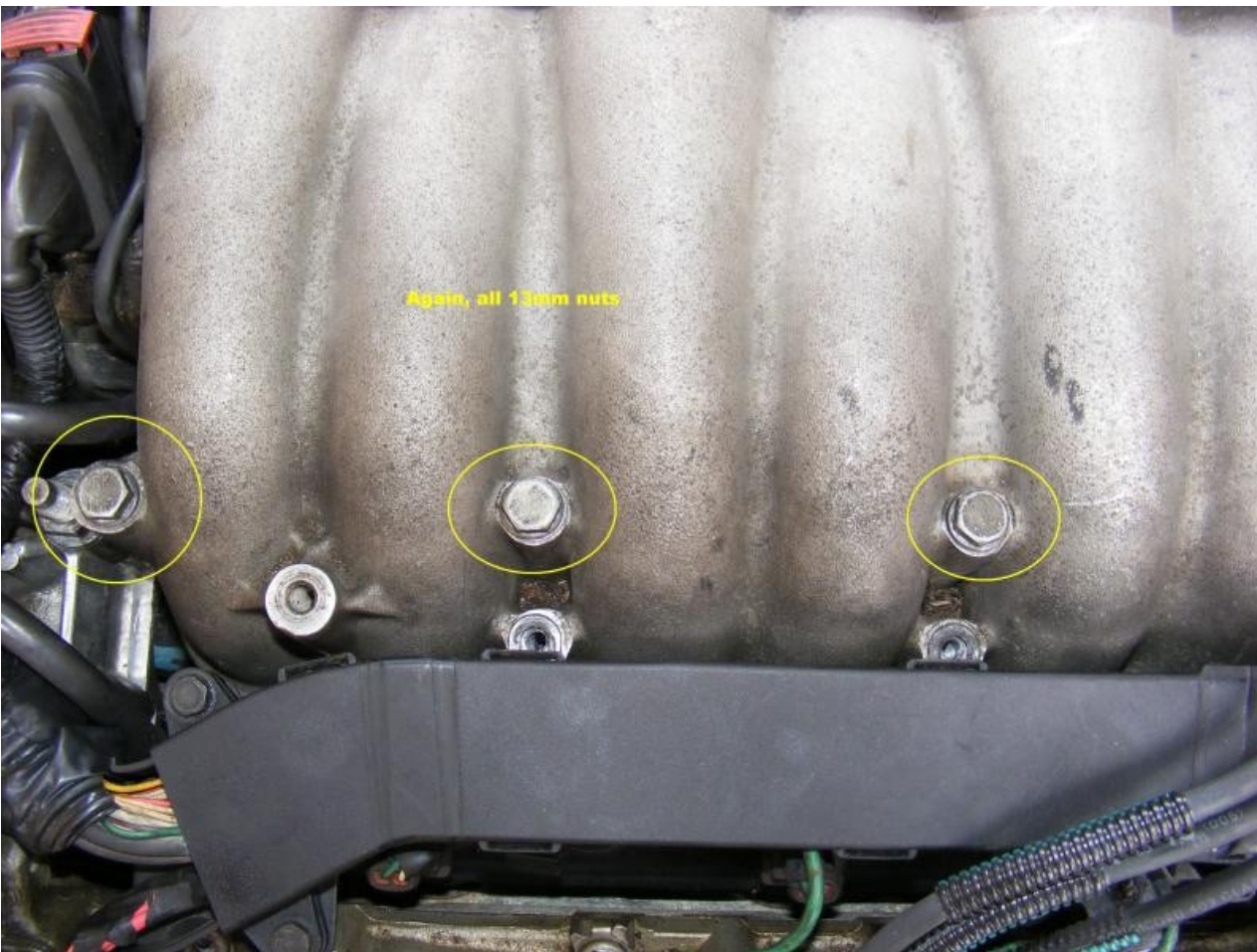


Once the wiring harness is loose, tilt it forward & undo those lower 3 x 13mm bolts at the base of the inlet manifold & set them aside on the floor:





Again using your 13mm socket undo 3 bolts on top of the manifold, these are the ones inline with the allen key one you removed first:



Now remove the 2 x 13mm bolts at the back of the inlet where it secures it to the engine lifts points, there's one each side.  
Sorry about the bad pic:

Drivers side:





Passenger side one is below the thread sticking out:

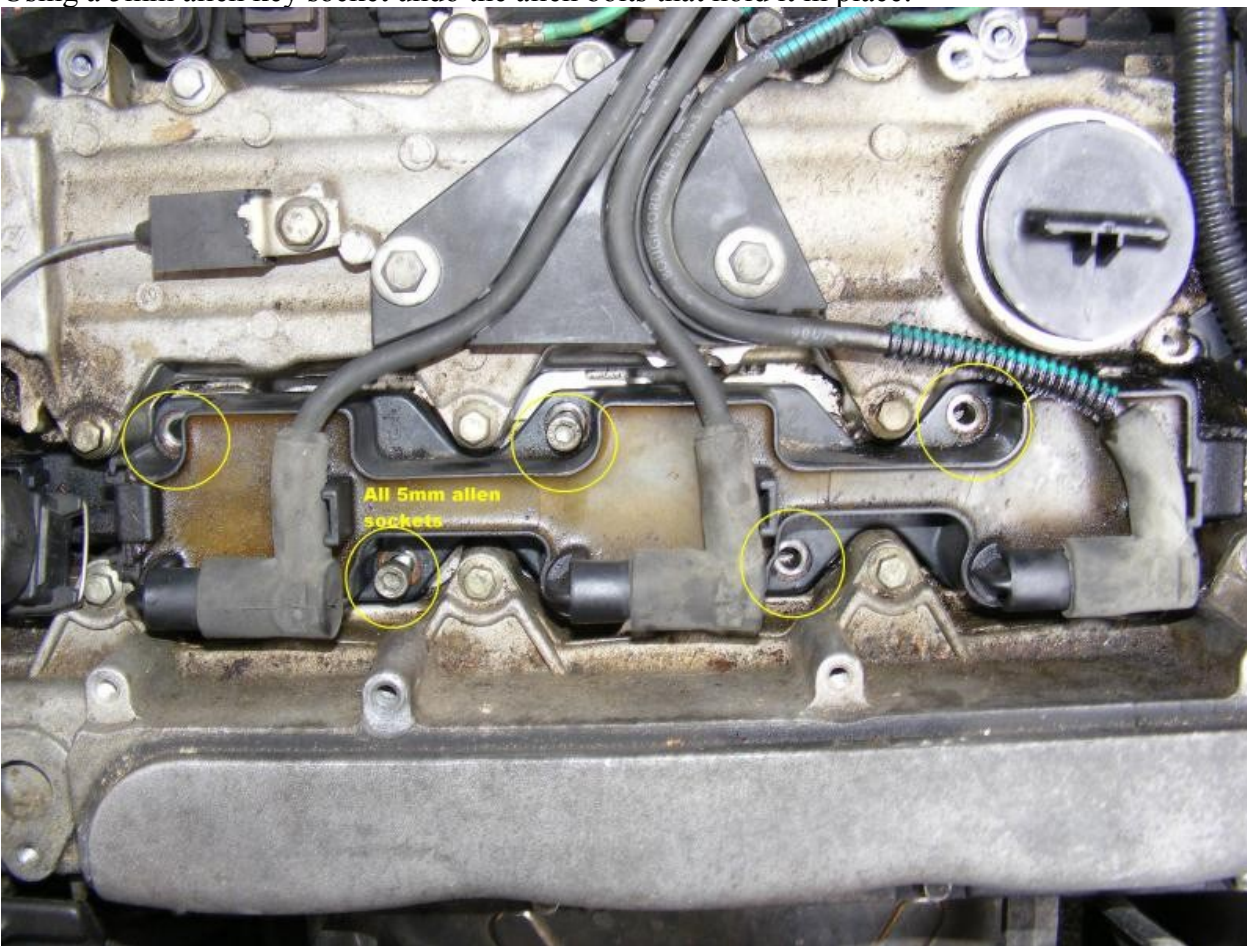


With the front panel out of the way you need to remove the coil pack, disconnect the electrical connector on the left hand side of the coil pack by pushing the metal bar inwards & then lift it off, be careful not to break any of the wires:





Using a 5mm allen key socket undo the allen bolts that hold it in place:



Once those are all undone you can remove the coil pack bolts & lift the front coil pack out & sit it on the scuttle panel below the windscreen:





Make sure none of the leads come out of the plastic harness you removed the 10mm bolt from though, that shows the routing for each lead, it's pretty simple when you see it, LEFT is left, MIDDLE is middle & RIGHT is right. take a photo on your phone or something just for memory.

With all that out of the way the inlet manifold should easily lift up & swing out of the way if you've chosen to leave the accelerator cable fitted to the throttle cam. I sat mine on top of the battery box. You might want to place some rags over the inlet holes, you don't want anything falling down them & into your engine! You could if you want remove it completely, but all you need to do is make room to get to the plugs. Check to see if your inlet manifold gasket has stuck to the head or the bottom of the inlet manifold. Remove it, you may need to scrape off any sealant if it has been used so you can get a clean surface to put your new one back on.

Now you can see the rear distribution block, this is held on by 2 x 10mm bolts. These don't actually come out of the rear block:



Undo these & lift the block out of position being very careful to make sure the leads are still in the plastic housing all the way along & gently put it aside or on the scuttle panel below the windscreen. I was lucky, all 3 on the rear of mine were clean & oil free, if yours has oil in them mop most of it out.

This could be where the fun starts. Now you can see all 6 spark plugs. No doubt some of the plug wells will contain oil, not much you can do about that. Spend some time with your rag absorbing up as much oil as you can from each plug well. Once you've got the majority of it up start removing the spark plugs, remove one plug & fit a new one, then move onto the next. It doesn't take long to do this. Remember the dog-leg pliers I posted above, well I found the socket was fine for removing, but putting the plugs back, the rubber part inside didn't want to come out because it was gripping the plugs, so I used them to remove it. You might be better off using a specific spark plug tool for this.

Now fit everything back in reverse (easier said than done you're probably saying), not really, if you've set all your bolts out in a pattern then it's easy, much easier than the removal, trust me, plus you've got this guide so there's no excuse. Make sure you fit your new inlet manifold gasket to the head of the engine, noting the locating holes on the gasket, it just sits there. There's a little tab on one side that sticks out a bit, this tab should be on the passenger side, so make sure it goes on the right way.

Check & double check all your bolts are tight (not too tight), I didn't have a torque wrench so I used feel to make my mind up. Once your bolts, pipes, electrical connectors etc etc are plugged back in, put your tools down & visually check everything again! Not to mention that you shouldn't have any bolts or screws left over! Yes I know, you're probably thinking what for, but it's just peace of mind, it's easy to overlook something on a job like this so spend a few minutes



doing it. Don't forget to plug that little thin pipe back onto the left side of the manifold by the large electrical connector.

Now comes the fun part, starting the engine. Don't forget, if you had oily plug wells, despite cleaning out as much as possible there's always a few drips of oil that will seep into the cylinders when you removed the spark plug. This can't be helped, so when you do start the car & see blue smoke from the exhaust, don't be worried. This is only oil. You can move the throttle cam towards the front of the car & hold it at 2000rpm using a cable tie around the throttle housing for about 5 minutes:



This will keep it at a high idle long enough for the oil which dripped into the cylinders when you removed each plug to burn off. A 'spirited' run out will do this pretty quickly indeed. Mine did have a small bit from the front bank weep in, it burnt off within a minute though.

Here's my old parts removed. I'm not sure where the missing bit to the gasket, but hey. My plugs were just over 4 & 1/2 years old:





The whole job took me just about an hour & half, that included taking the photos.