

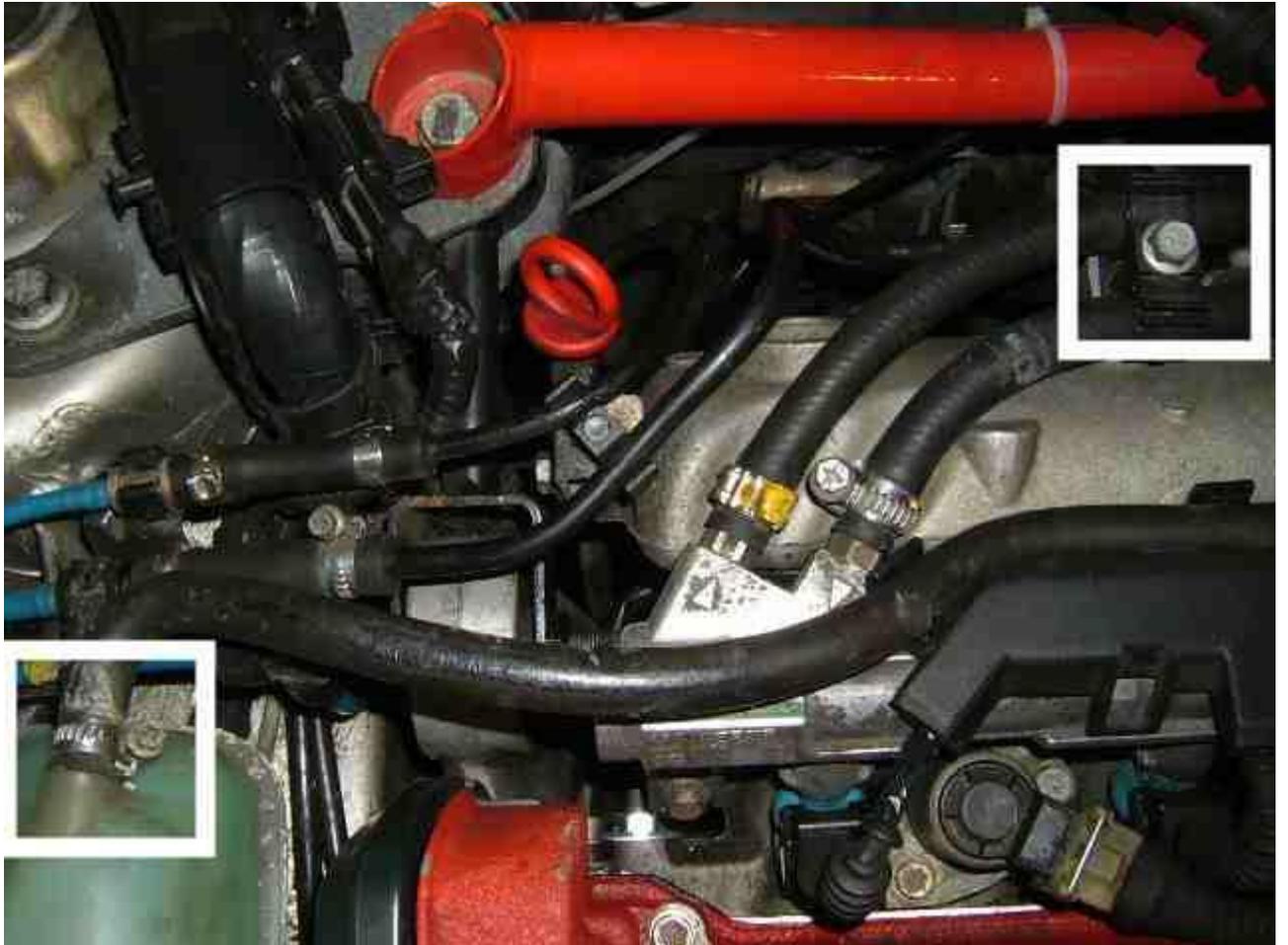
Injector replacement 20v/vt

WARNING: This task should only ever be carried out on a COLD engine due to fire risk from leaking fuel.

First you have to remove the 5 electrical connections from the injectors, plus the electrical connector from the VVT solenoid, as shown here:



Then undo the hose from the coolant header tank and the fuel hose clip on the back of the intake manifold, as shown:

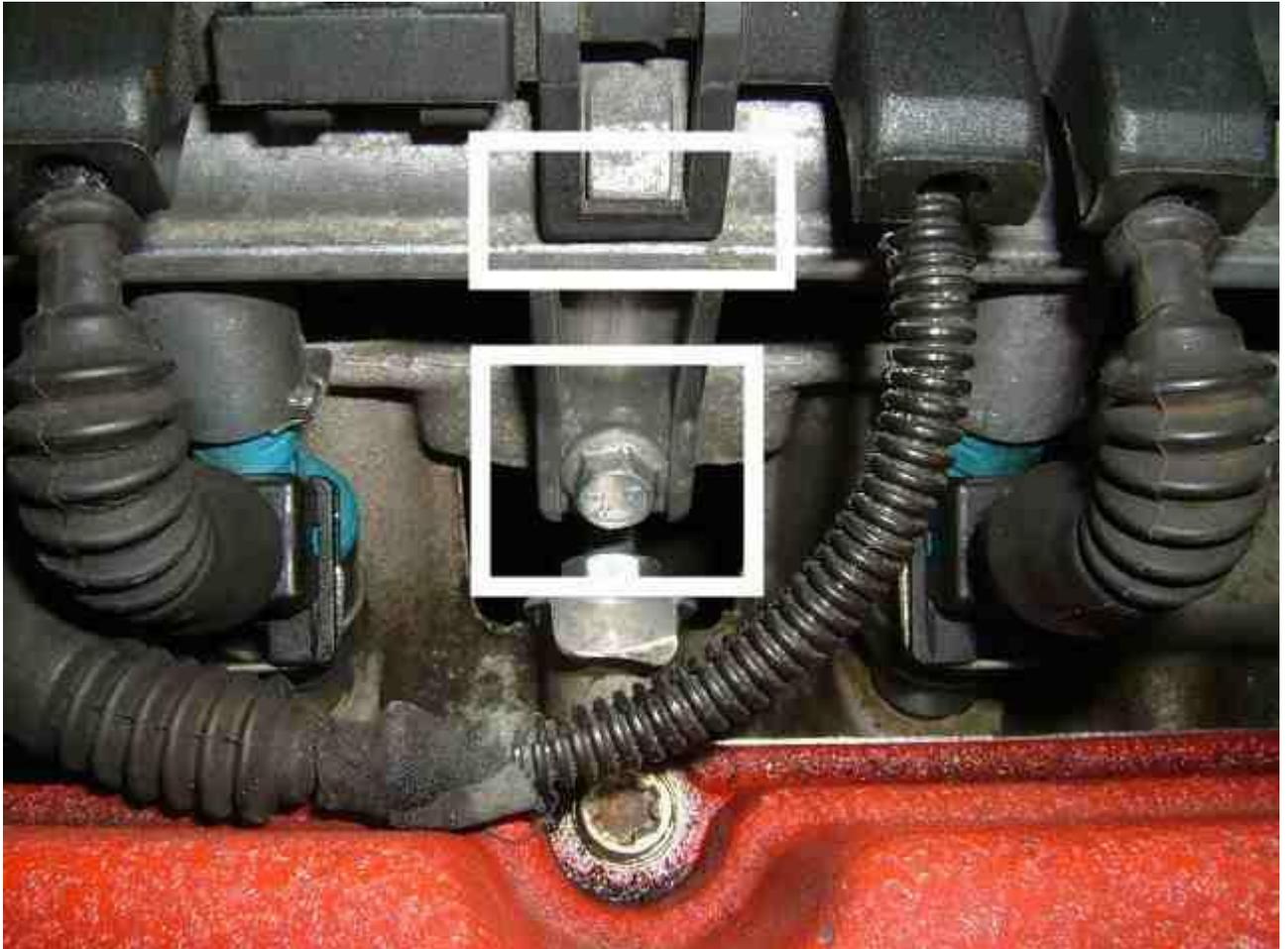


Remove the small hose attached to the fuel pressure regulator, shown here:



Release all the clips holding the plastic cover on top of the fuel rail which will allow you to move all the wires + the coolant hose out of the way (see picture below)

Now undo the 3 screws (middle one shown below) fixing the fuel rail to the lower half of the intake manifold. Note, the original bolts have star shaped 'Torx' heads (T30) - the one shown in the picture below has been replaced by a normal bolt.



The entire fuel rail, complete with injectors, should now pull up/away from the intake manifold and be left attached only by the 2 fuel lines. The o-rings are very tight so it can need quite a strong pull.

Once the fuel rail is removed you should be left with something like this



The next step will cause petrol to leak out of the rail, so get a big, thick rag and put it on top of the spark plug cover to soak up the spillage.

You can either disconnect the fuel lines from the back of the rail to allow the entire rail to come free, or leave those hoses alone and just remove the injectors from the rail.

There's a small clip on each injector, which holds it in the fuel rail, along a small groove at the top of the injector body. You have to push these off with a screwdriver. When putting them back later make sure they're on the correct way... they only fit one way (which ensures the injector is in the correct position) but make sure you look carefully before removing any so you know how to refit them.

Once the clips are off you have to pull the injectors out of the rail... again the o-rings are very tight so it can be a struggle to pull the injectors free. If you haven't disconnected the inlet/outlet fuel lines from the back of the rail previously then fuel will leak out at this point, when you pull the first injector free.

When the injectors are out you should ideally replace all the o-rings, but if you're just switching a couple of injectors around for testing purposes I guess it's not that important.

For refitting just follow these steps in reverse order.

When starting the engine it's a good idea to turn the ignition on/off (but don't start) 3-4 times first and leave it "on" for a few seconds each time until you hear the fuel pump stop, to make sure the fuel rail is fully pressurised. Then it should start first time.