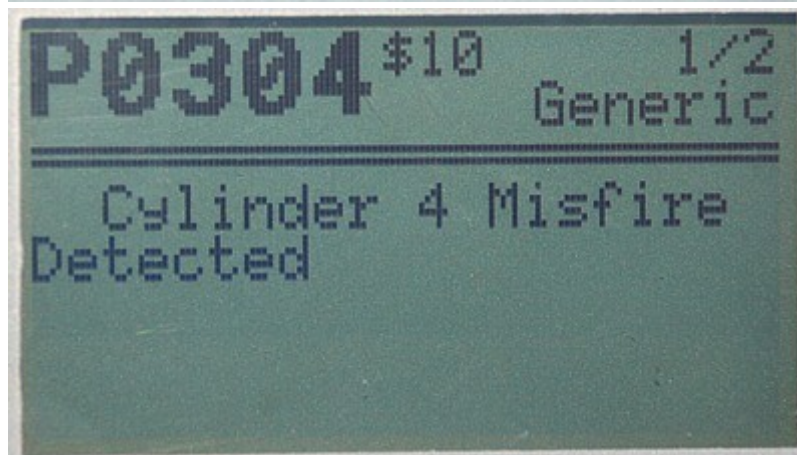
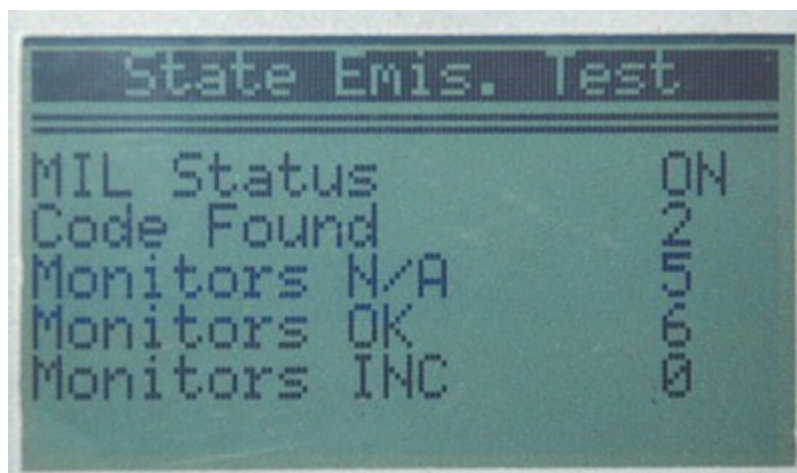
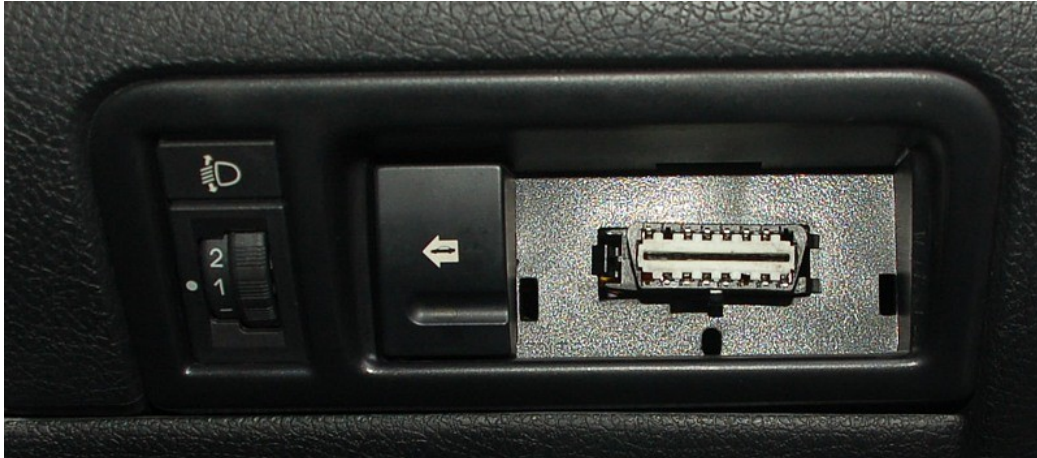


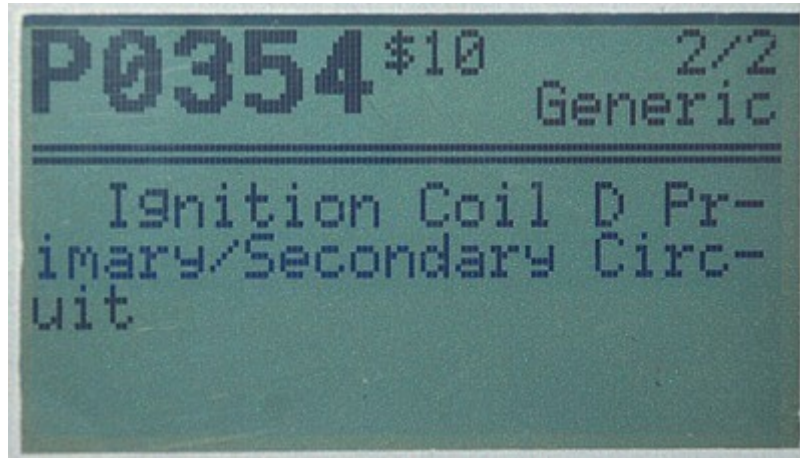
# How To: Replace ignition coil on the ES9J4S V6 210bhp

- Exhaust rattle when idling
  - Idle feeling lumpy but staying at about 800rpm
- Whole car shuddering when engine between 1000 and 2000 rpm
  - Vibrations smoothing out above 2500rpm
  - Down on power

I believe I should also have had the engine management “STOP” light coming on with the engine running but it didn’t for some reason. It does work as it comes on with the ignition

My MaxScan GS500 showed up the following codes when connected up to the OBDII port.





The misfire was on cylinder 4 but as that is at the back under the intake runners I decided to replace all 3 back there while I had things apart

### **Tools**

- basic socket set
- philips screw driver
- Torx20 bit (if changing a coil on the rear bank)
- Torque wrench (if changing a coil on the rear bank)
- flat head screw driver (for helping push in the union hose connectors)
- 8mm spanner

### **Procedure ~ 1.5 hours**

Part 5970.94 - £25.54 + VAT



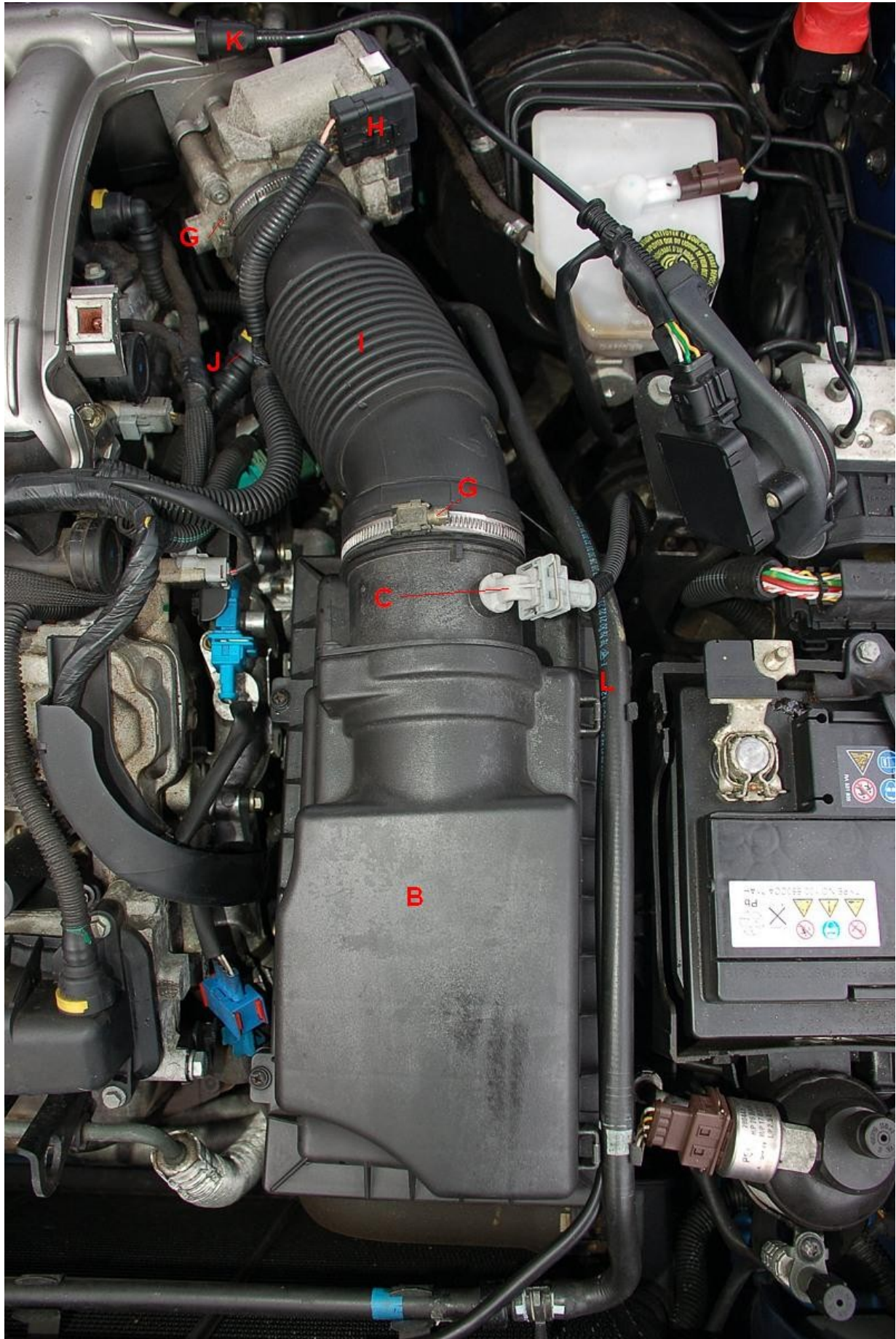


- A - Battery
- B - Airbox
- C - Air temp sensor
- D - Strut Brace bolts
- E - Intake manifold / runners
- F - Engine cover

1. **Disconnect the Battery** - Lift the battery cover (A) off and disconnect the negative connection using the 8mm spanner and make sure the cable is tucked out of the way
2. **Remove the engine cover (F)** - It's held on by pins that go into rubber sockets so just give it a good pull up towards you.

**If you're changing a coil on the front bank you can skip straight to step 13**

3. **Remove the strut brace** - remove the 6 bolts (D) holding on the brace using the TX50 piece. Mine were on so tight that several let out a great screech as they came un-done and the last but one snapped my Tx50. I'd recommend a good squirt of WD40 on these bolts a few minutes before you start.



4. **Remove the Air Temp sensor (C)** - just pull it out of the tube and tuck out of the way.

5. **Remove the Air Box (B)** - slacken off the jubilee clips (G) with the philips screw driver. unclip the two hoses (L) that run along the airbox and then along the top of the radiator. Pull the tube (I) off the airbox and lift the airbox out

6. **Disconnect the Throttle Stepper Motor(H)**

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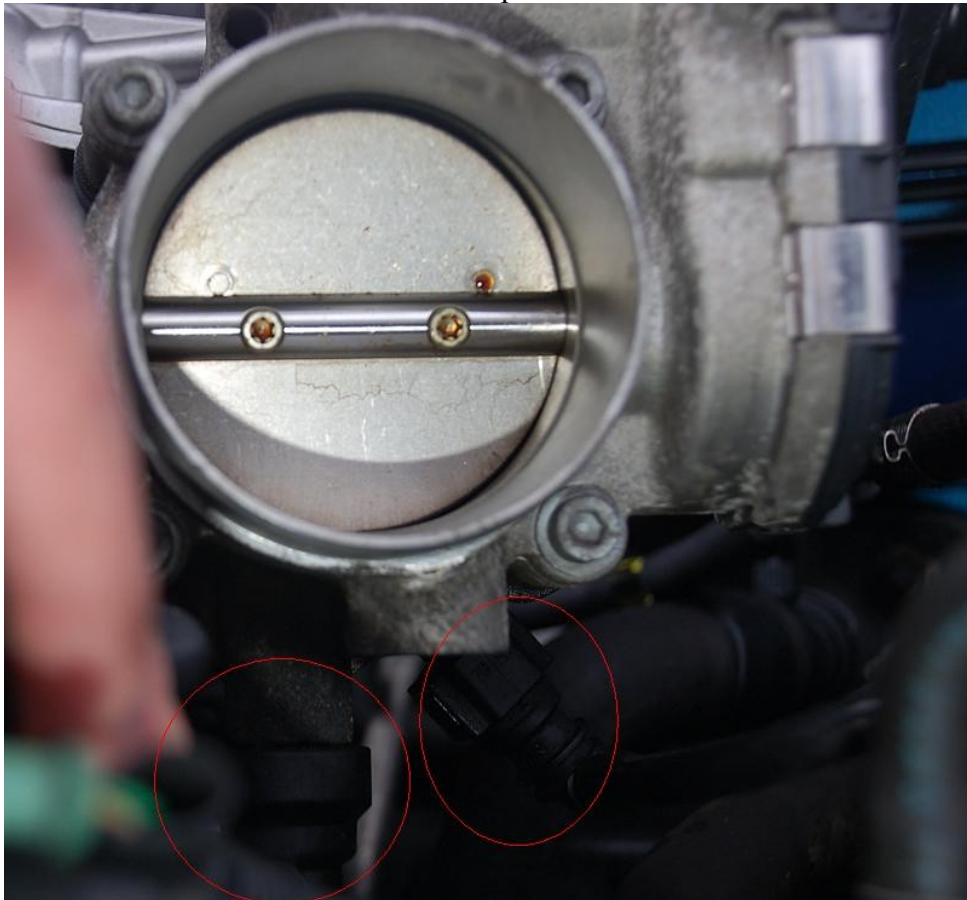
7. **Remove the air intake tube (I)** - wiggle the intake tube off the throttle body. disconnect the breather pipe (J) by

pressing in the yellow bit. It may need a bit of twisting to come free.



8. **Remove the brake servo pipe (K)** - Another of these union fittings like the breather hose. press in the bit on the back and it slides off easily

9. **Disconnect pipes on underside of throttle body** - there are two pipes that connect up under the throttle body. the left hand one is another union fitting. The right hand one is a similar squeezable connection. I actually found both of these connectors a bit easier to remove once the intake manifold was loose. Both circled on the photo below. couldn't get a better shot due to the space available



10. **Remove the wiring harness trunking** - This has to be removed in order to get to the bolts securing the intake manifold.



Just unclip the clips marked with an X and pull out from under the harness. Some parts of the harness are clipped on to the front of the engine. unclip these too if you need more slack on the wires

11. **disconnect the MAP sensor** - look over the back of the intake manifold and you should see the connector. I couldn't get a shot of this as it's all too tight back there

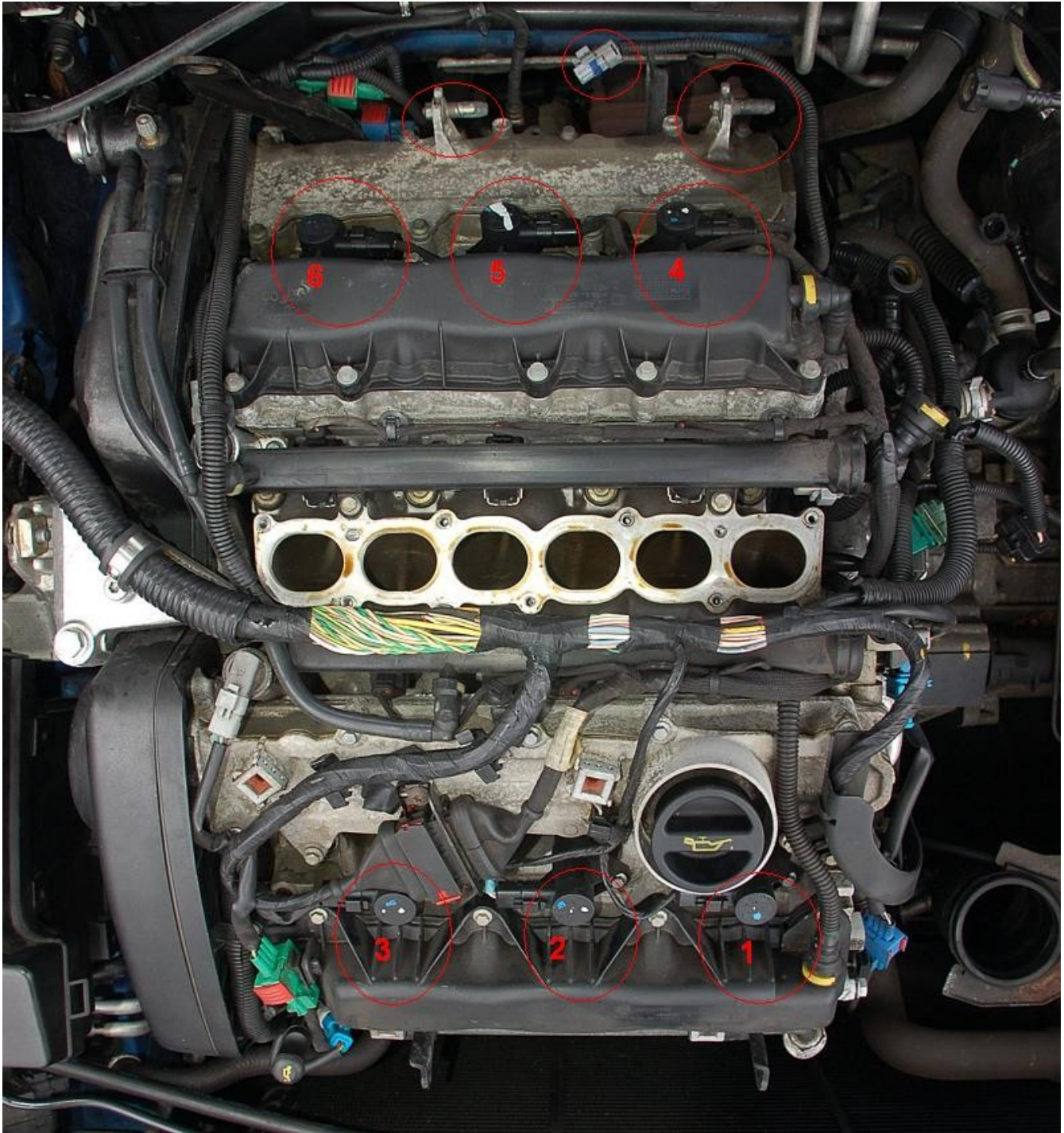
12. **Remove the intake manifold** - there are seven 8mm bolts holding it on



Take out all 7 bolts (take note of the 2 longer ones that should go back in the rear centre). Lift the manifold up at the front and then slide to the right to release from the rear mountings. Put the manifold somewhere clean while you carry out the rest of the work. Avoid touching the throttle butterfly valve or getting any dirt into the intake runners. Take care not to drop anything down the now fully exposed engine intake channels.

### 13. Replace the faulty coil -

This photo shows the layout of all 6 coils with the cylinder numbering that corresponds to the codes on the scanner. I've also circled the rear intake manifold mounts and the MAP sensor connector (off)



Remove the coil electrical connection (circled). A single 8mm bolt (circled) holds each coil in position. remove the bolt and the coil should wiggle out easily.



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Replace with the new coil. I don't know the correct torque for the bolt but none of them seemed excessively tight to me so I

just torqued up a sensible amount till the coils couldn't move.

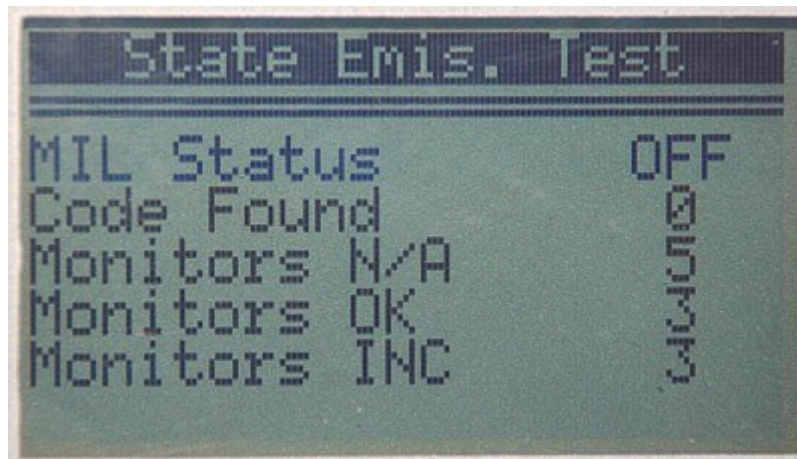
14. **Re-assemble** - I'd put everything apart from the strut brace back on, test the engine is running ok and then put the strut back on. Don't even consider trying to start the engine till every thing is back in position. Even if the ECU let you try with all that stuff disconnected, it would red line straight away without the throttle in place.

Advice given here on the forum for bolt torque is

Inlet manifold = 0.8Nm (5.9ftlbs)

Strut brace = 40Nm (30lbft)

15. **Test** - I could tell straight away that my problem was fixed as the engine ran nice and smooth. Plugging the scanner back in gave me this



So I didn't even need to clear any codes or reset the MIL. 😊