

Tools and Materials:

Sockets: 6mm, 8mm

Torx: T30, T40

Torque wrench

Hi Temp silicone gasket-in-a-tube

How to:

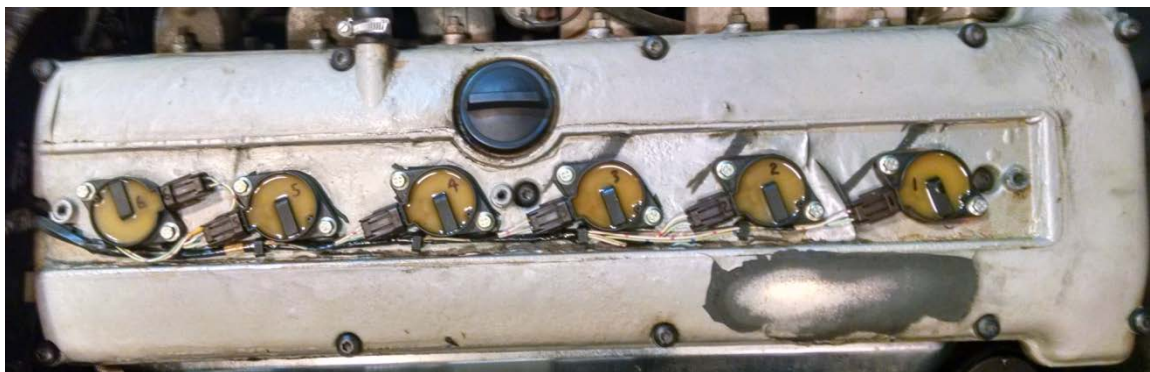


Loosen the hose clamp (6mm socket) and disconnect the crankcase ventilation hose from the cam cover:

A T30 Torx bit will liberate the coil cover. Don't lose the rubber gasket. It will be re-useable:



Before you go any further, you'll want to develop a system to prevent yourself from mixing up the connectors for the #5 and #6 coils. In my case, for both cars, I marked both the coils and the connectors with a sharpie. It really doesn't matter about the coils, but the connector position is critical. It may not be very visible in the picture, but each connector is also numbered.



An 8mm socket will have the coil bolts out in no time,



and you can drape the coils along the exhaust cover without disconnecting the wiring if you wish:



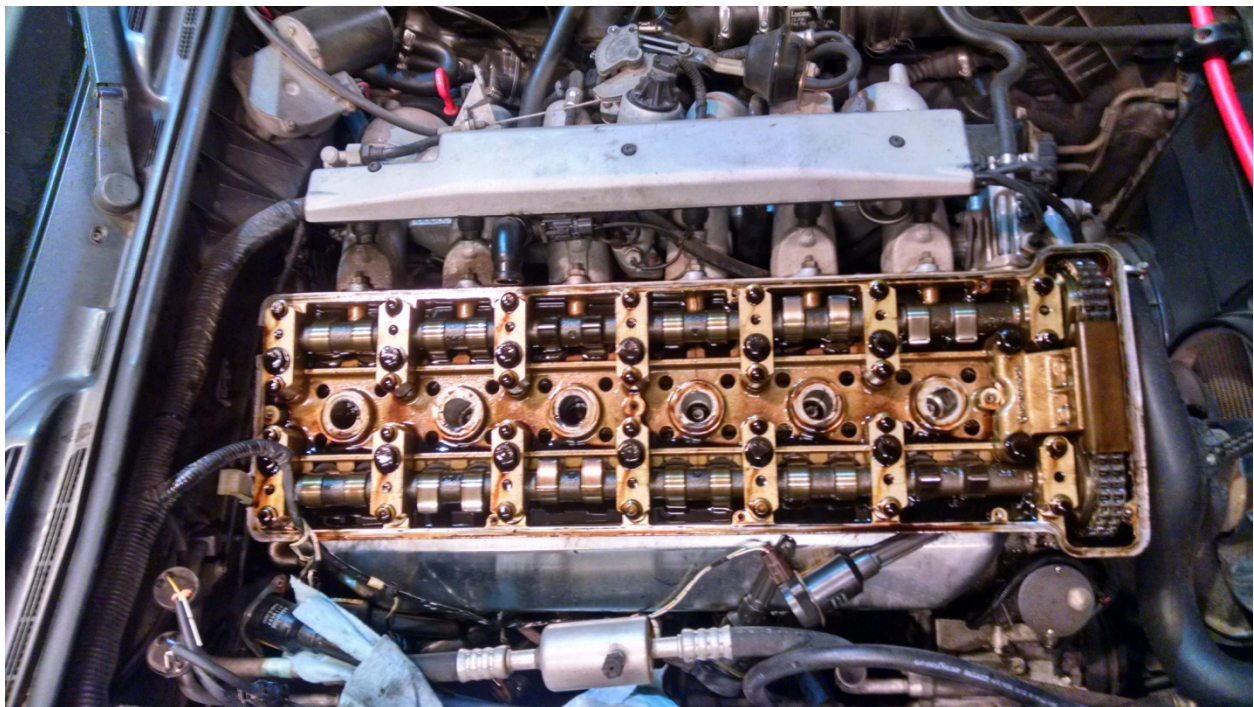
Torx T40 for the cam-cover fixings:



Having recently pulled 4 cam-covers, I think I found only 2 cam-cover bolts (out of 52 total) that would pull out of the holes easily after total thread disengagement. Just make sure they are totally unscrewed and leave them in the holes (remember, there are 13 in total, don't forget the 3 down the center):



Removing the oil fill cap (710 cover!) will leave you a nice hand-hold for lifting it off. You may need to pry gently around the corners to break it loose if the last installation was accomplished with a smear of RTV on both sides of the gasket and the SPB seals. Go easy, it is a fragile piece.



This is an excellent opportunity to renew your spark plugs. Some will argue that not using RC12YCC from Champion is the equivalent of “crossing the streams” in Ghostbusters, even though they are apparently no longer available. Due to this development, a few of these purists will now grudgingly allow the use of Champion RC12YC’s. The experience I have made is that crossing the streams really isn’t all that bad. I bought the car with 63k miles on it. At 85k, I renewed the plugs(I don’t recall what was fitted, likely

RC12YCC from original build) with NGK Iridiums. It wasn't missing or anything, I just didn't know if it had ever been done, had owned the car nearly a year, and figured it was time. Here we are nearly 5 years on, almost to 196k, and I'm just now getting round to renewing them again. This time, I have the proper RC12YC's as I found two boxes of 6 ea. in my "stash" that I suppose I ordered from Rock Auto when there was a promotion on after reading the horror stories about what I'd done by fitting the NGK's. So I fit one set to the SpruceBruce after I'd removed its cam cover, and another set to my daily driver when doing the cam cover swap on it. Having the cam cover off makes it a bit easier to remove the oil fouling the plug wells. Both boxes of mine were gapped to the proper 0.035" straight out of the box, and they should be torqued to 22-28 nm. The long-reach socket pictured isn't really necessary. In fact, on the first one, I used a normal spark-plug socket and extension having forgot about this one hanging nearby on the pegboard.



As mentioned earlier, I've removed 4 of these covers over the past month, but as I'm writing, I've only installed one, but thus far, all's well, with no leaks evident. I followed Grant's advice from several posts and smeared hi-temp rtv in all six grooves of the spark plug bores, then pressed the seals in firmly. I also ran a bead around the perimeter groove before fitting the gasket.



I also applied a smear to each all the way round the placed the cover to the head, Initially, I just did a few turns started squarely and not cross-



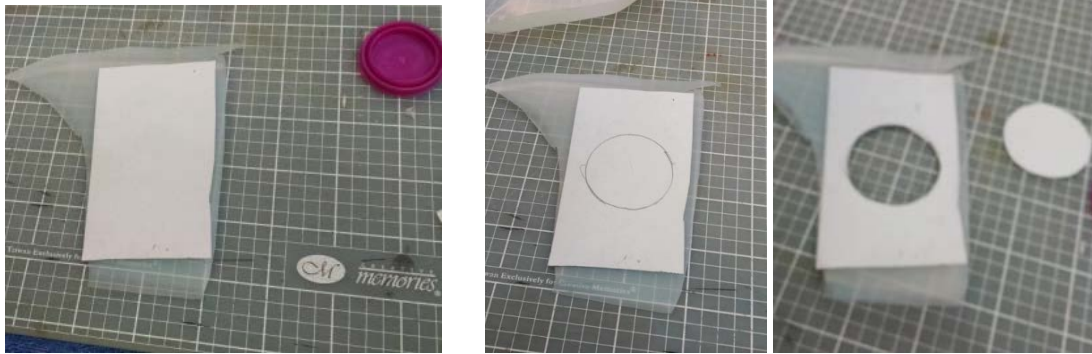
spark plug bore on the head and a small bead perimeter mating surface on the head. Then I and started inserting bolt seals and bolts. by hand to make sure the threads were threaded.

Then, starting in the middle, and alternating sides and working toward opposite ends, I snugged each bolt down finger-tight. The original torque spec of 3-5 nm was revised via TSB to 6.5 nm, which still isn't very much. Again, starting in the middle, and working diagonally outward to both ends, I applied about a half-turn to each and continued the rotation sequence until I got the 6.5nm click on the torque wrench. Refer to TSB 03. 1-08 "Camshaft Cover Oil Leaks – AJ16 Engine – Revised Bolt Torque Specification" for the proper Jaguar way of doing it. (including diagram of bolt-order tightening sequence)

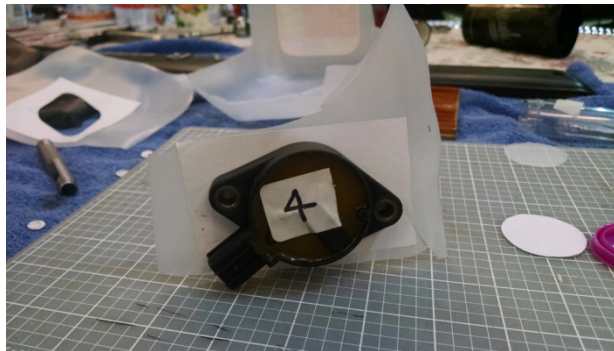


As is evident, my paper coil gaskets were destroyed. I found a couple that I had made back at the 85k mile plug swap when I took it apart. I don't remember EXACTLY what I constructed them from back then but it was some kind of plastic. They were still intact, but I made a full set this time from plastic water jug material. You'll need: Knife (I used an exacto), a couple of gallon water or milk jugs, most of a sheet of adhesive label paper, a pencil, and a hole punch. I found the cap (+ tracing clearance) on a gallon water jug was the perfect diameter to fit snugly around the coil boot: Cut out a flat piece of the jug large enough to cover the coil base and stick a piece of label paper to it:

Place the bottle cap in the center and trace around it and cut out the circle:



Slip it over the coil so the paper is against the flange on the coil. Hold it snugly and trace around the coil flange. Don't forget to mark the holes.



Punch the holes and cut it out and you are 1/6 of the way there!



I pulled one coil out after two weeks' of operation to see if the material was holding up to the heat, and it looked like it does here at initial construction.

By now the keen eye has spotted that the coil used in gasket construction is not from the car that is getting the freshly-painted cam-cover. Correct. I removed all the coils from their connectors during my first cam-cover removal on SpruceBruce and placed them to a box. He had one non-OEM coil fitted and a bit of a hitch at idle and possibly throughout the range, so I've got that to sort through. Remembering this fact, I found the coil box and grabbed one when I realized I needed a pattern. I do not recommend disconnecting the connectors from your coils if you do not suspect that you have any coil problems when you accomplish either a cam-cover R&R or fit new plugs, or both. Here's why, as alluded to in one of the linked-cam-cover posts:

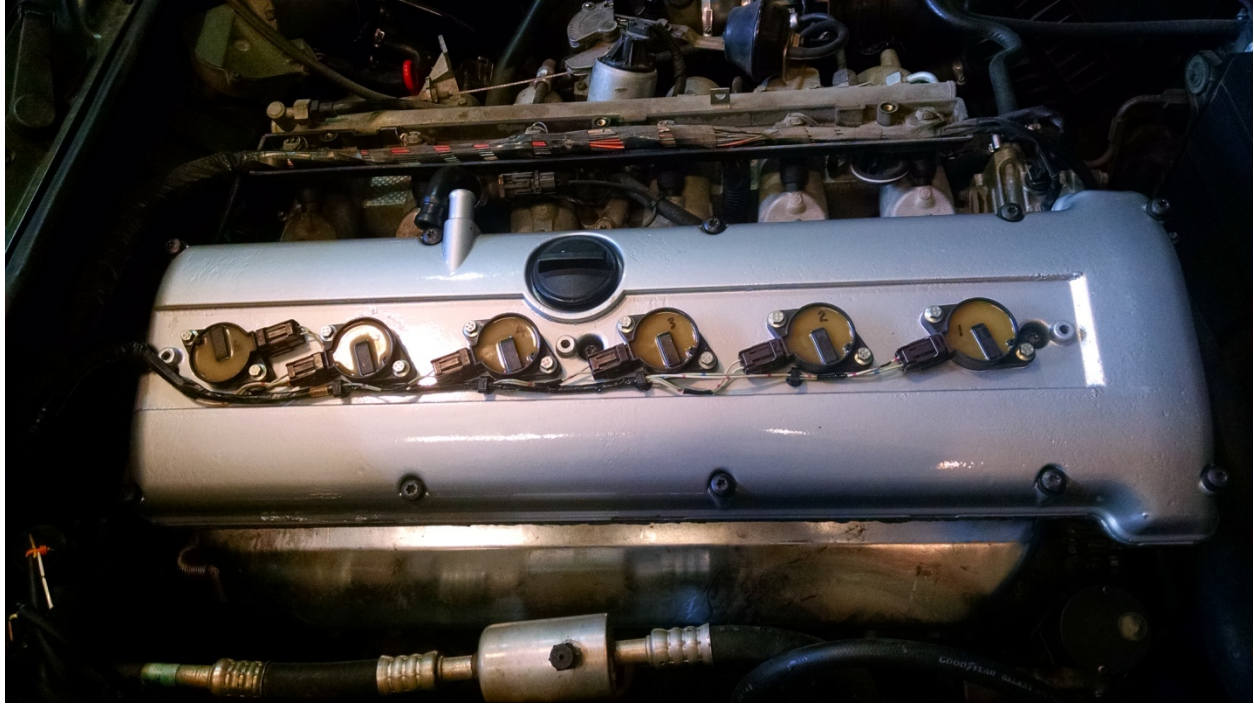


See how the orange part of the connector doesn't really seem to be all there? It's not. Here's how it should look: (and you can see even the whole one has a crack – they are all brittle at this age)



For what it's worth, at the same time I obtained the first replacement cam-cover, I noticed all six coils on that car were the original, Lucas, made-in-Japan variety. I thought that may come in handy and snipped the wiring loom right at the takeout on the firewall harness and bought all six, still strung together by the wiring loom, like a mess of fish. Remembering these broken connectors on Bruce, I thought, "Hey, maybe I could take a pick and release the terminals in those connectors and move the whole shell and all its associated parts to Bruce?" So I removed a spare coil from the harness and the connector looked perfect! Until I barely touched it with a pick...then the orange bit began to immediately crumble. I decided to keep at it to see what would make the terminals release. Never managed it. I know they have a little spring-locking tab, but I couldn't actuate it. I decided if I ever need to use any of the other 5 coil plugs on that cut-harness, the ticket is to just snip the wires a few inches back and solder them onto the car harness!

Not sure what the spec is for the coils, but I didn't use a torque wrench, just put them up snug with my hand on the pivot of the ratchet rather than the proper end of the handle. Since the Christmas-tree wiring loom retainers had lost most of their bite during removal, I added a dab of RTV to each before re-seating them in their holes.



Refit the ventilation hose and install the coil-cover and you've got this one "saucer'd and blowed!"

