How To: Cambelt change on ES9J4S V6 210bhp

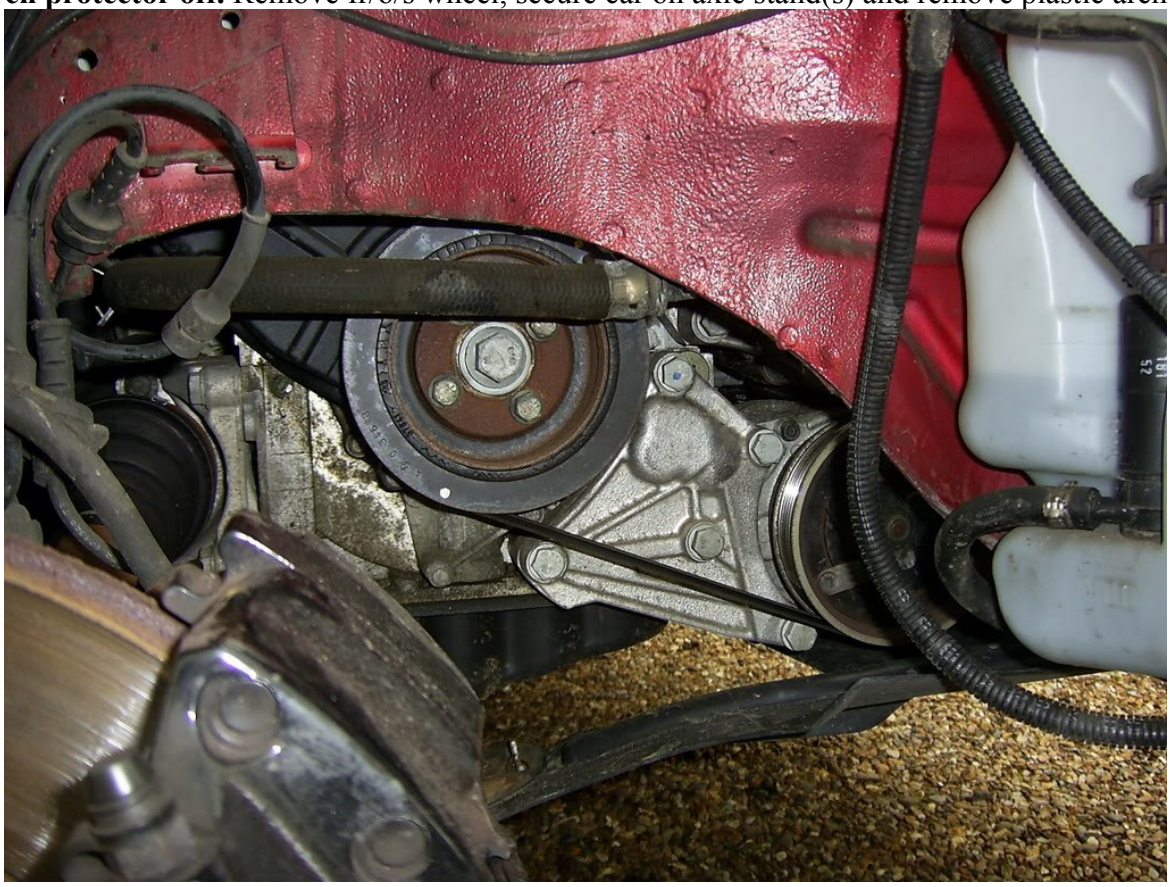
I fitted the cambelt kit the other day and here are a few pics of how it went. No special tools needed except 5 cam locking pins and 3 tensioning tools (1/4", 3/8" and 1/2" square ended)...all relatively easy to make up yourself. PM for details if you're going to tackle this yourself(although Ger and others are the REAL authority on this subject)

Cam Locking Pins.

Tensioning tools. The 3rd one not shown as it's simply a 1/2" drive T-Bar.

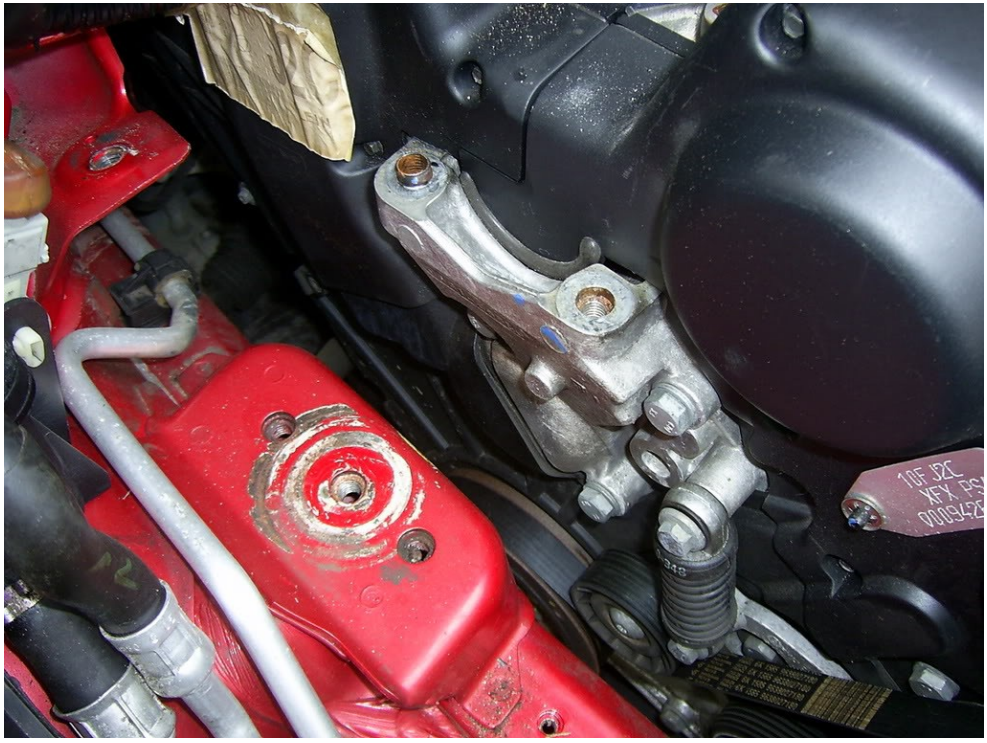
Cambelt Kit. That square hole is where the 1/2" drive T-Bar fits.

Wheel Arch protector off. Remove fr/o/s wheel, secure car on axle stand(s) and remove plastic arch protector.



R.H.Engine Mount off. Disc battery, remove engine cover and ecu box. Swing ecu box out of the way, no need to disconnect it. Tie it up out of the way.

Support engine from underneath, remove top engine mount. You can see the usual scars of V6 engine mount failure here. Might be a good idea to double check the 'doughnut' mount at this stage as this is the one that usually fails on the V6.

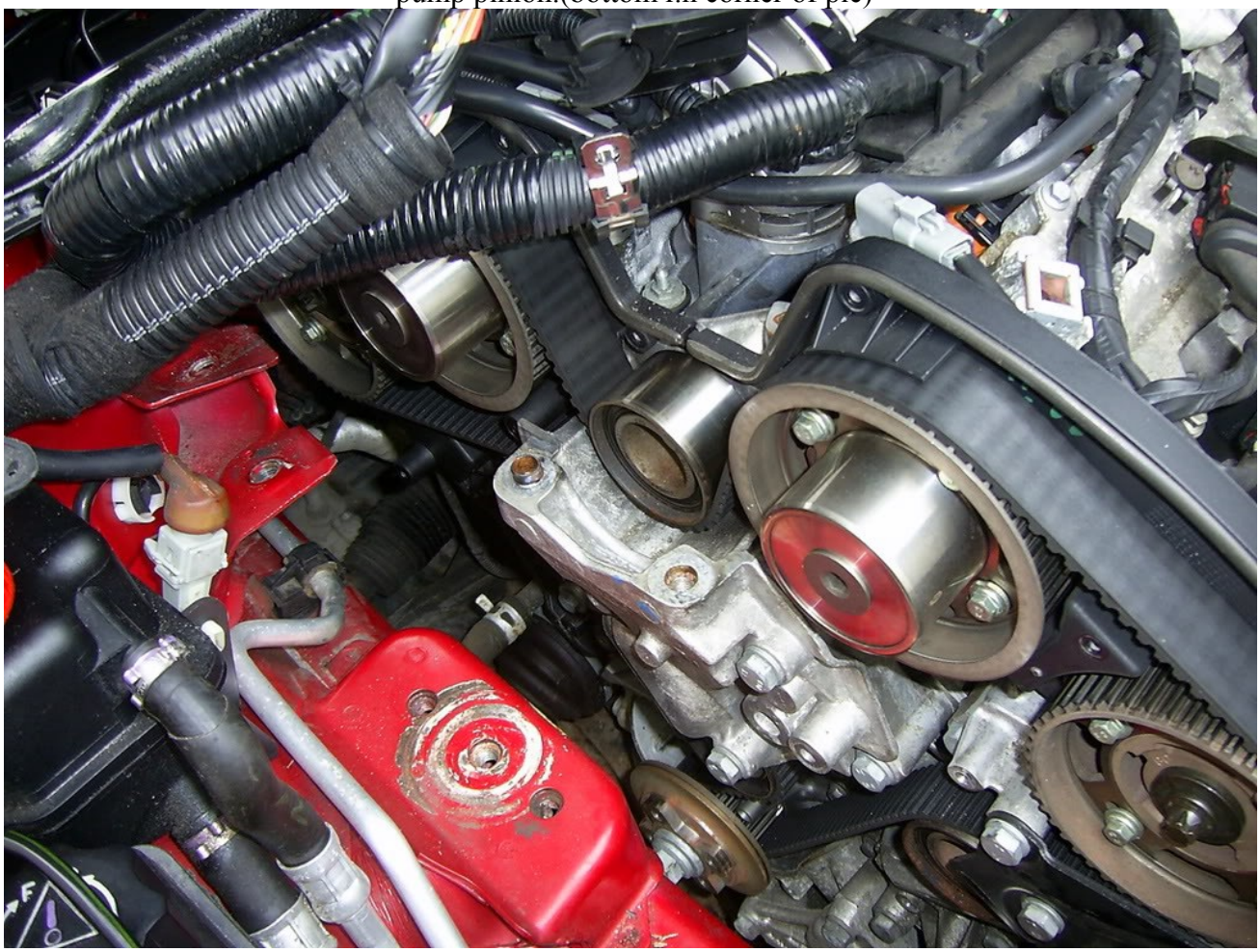


Aux Belt tensioner. First make a note of how the aux. belt fits....

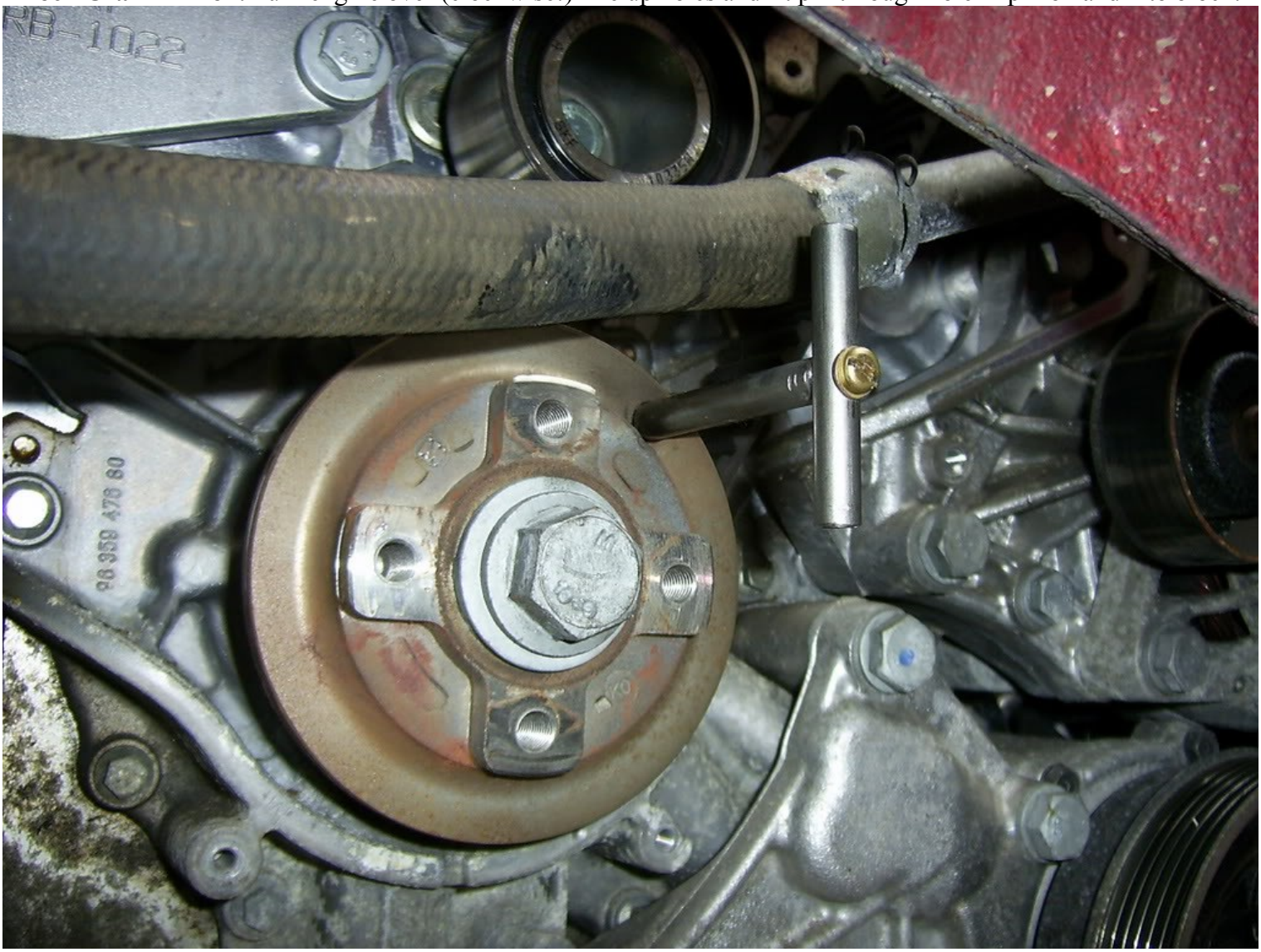
....then, using the 3/8" tool, release tension in aux belt tensioner (push downwards) and take off belt. Remove Steering Pump pulley. Belt already off here.

Remove crank pulley. Remove aux belt tensioner assembly, take off crank pulley. The 4 small bolts, not the large central one.

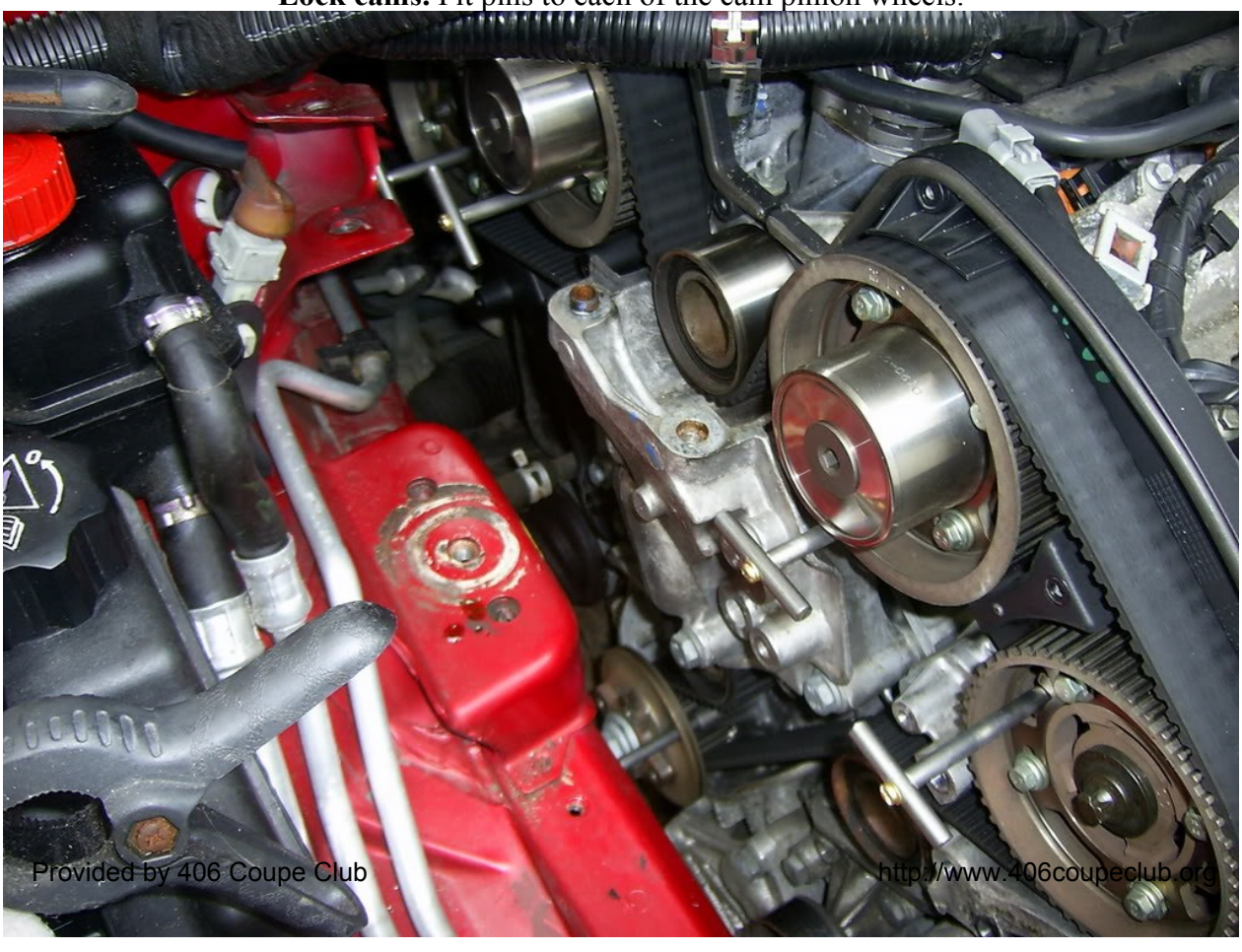
Cam Covers. Remove both top cam covers and then the lower one. Remove a small 'support plate' near power steering pump pinion.(bottom r.h corner of pic)



Lock Crank Pinion. Turn engine over (clockwise!) line up holes and fit pin through hole in pinion and into block.



Lock cams. Fit pins to each of the cam pinion wheels.

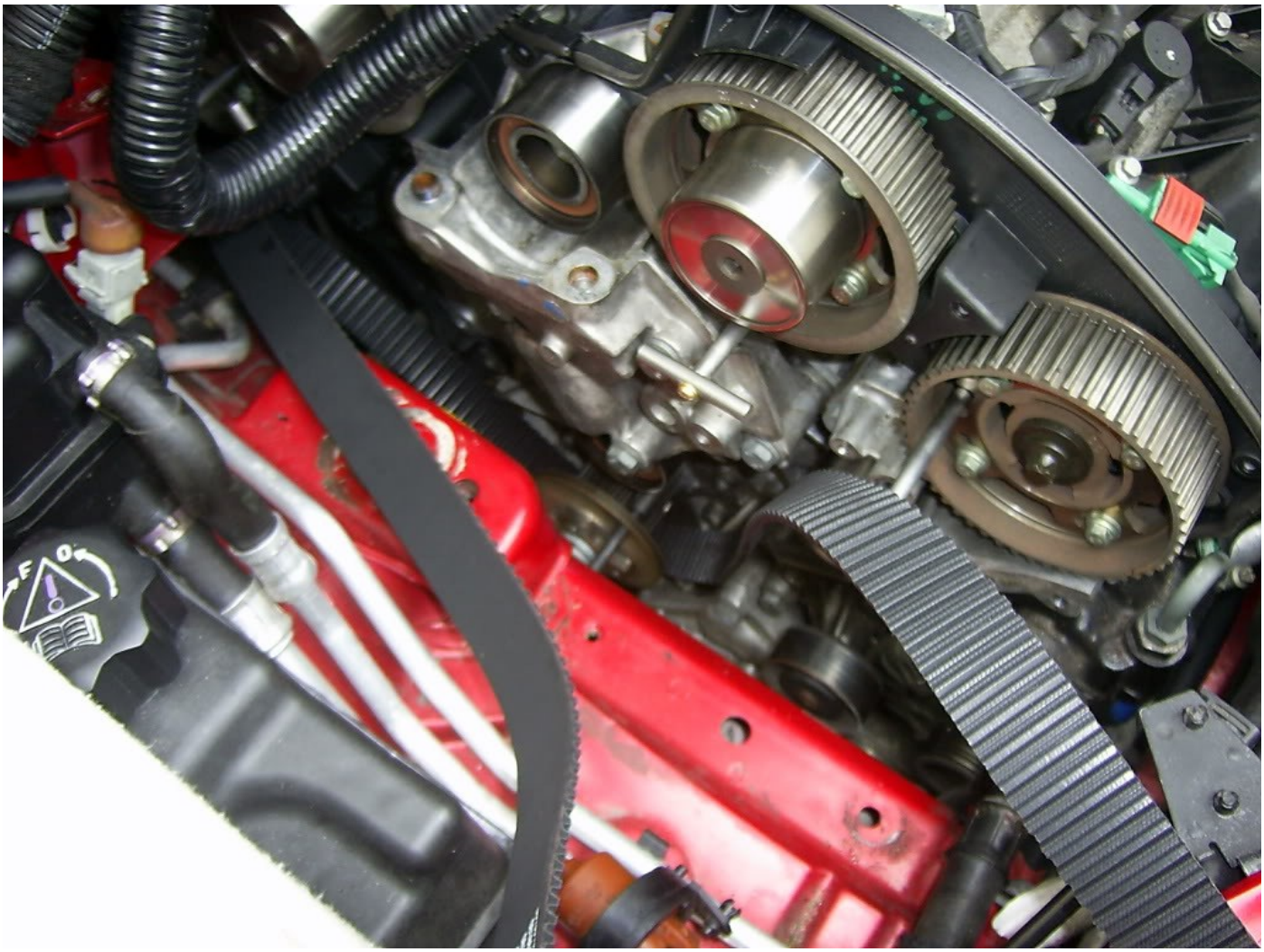


Cambelt Tensioner. Release tension in belt by loosening central bolt and using the small home made adjuster, swivel the roller away from the belt. It's on an eccentric fixing.

Remove old belt, take off the 3 rollers and tensioner assembly.
Refit new rollers and tensioner assembly.(Only fit 2 of the tensioner assembly bolts at this stage. The lower and the slotted one)
If you're doing your water pump, that stage would be here.

To refit new belt, first slacken each of the 4 bolts on each cam pinion by a 1/4 turn and rotate the cam wheel clockwise as far as the slotted holes will allow. (The cams themselves aren't moving, just the cam wheels).

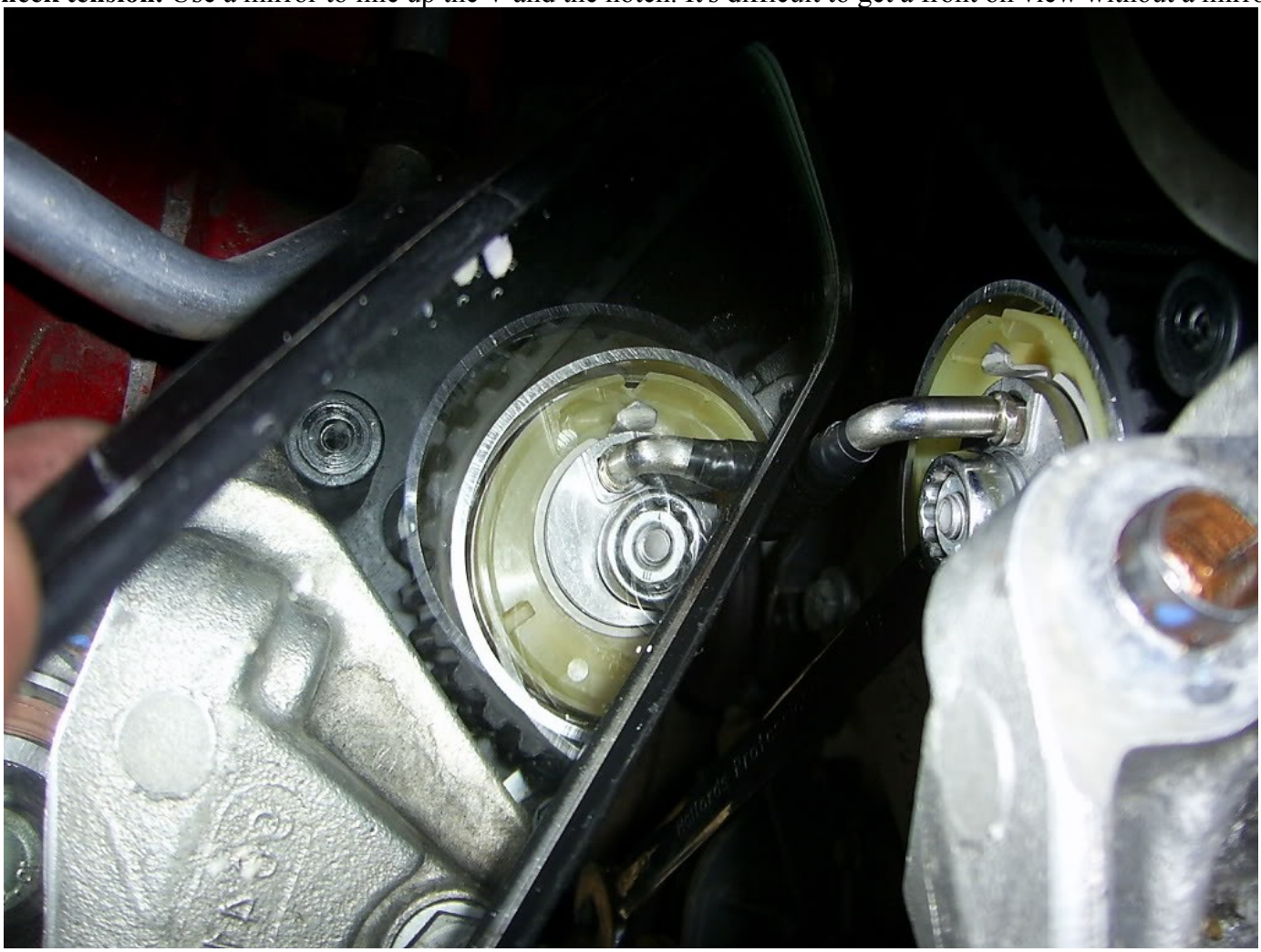
Start to thread new belt on. Start at the crank and thread the belt up the r.h. side. Peugeot have a 'clip' type tool to prevent the belt slipping off the crank here but I used a fat piece of foam wedged in to keep it in place while you're up the top end. Another pair off hands would do, of course.



Threading the belt. Pull the belt over the first roller and up to the exhaust cam wheel of the front bank. As the cogs/teeth won't line up, whilst holding the belt in tension, rotate the cam pinion slightly anti-clockwise until the belt drops into mesh. Don't go more than 1 cog width. Keeping the belt tight, continue with same method over the front bank inlet cam, under centre roller, over rear bank inlet cam and rear bank exhaust cam. Each time rotating cam pinion anti-clockwise till

belt drops in while at the same time keeping belt as tight as you can.
Finally, fit belt over the water pump pinion and the 2 adjacent rollers. This operation has to be done in one movement as the belt won't flex enough to do it bit by bit.
You have to pivot the tensioner assembly slightly to get the 3rd bolt in as it's now under (light) belt tension. Use 1/2" drive T-Bar for this.
When that's all done, go back and tighten up those cam pinion bolts to lock the pinions back to to camshafts.
Put some tension into belt by rotating roller on tensioning assembly clockwise. Tighten up centre bolt to hold the tension.
Remove the 5 locking pins and rotate engine over twice, clockwise. Each time you rotate engine, do it an even number of times or the cams won't end up in the right place!

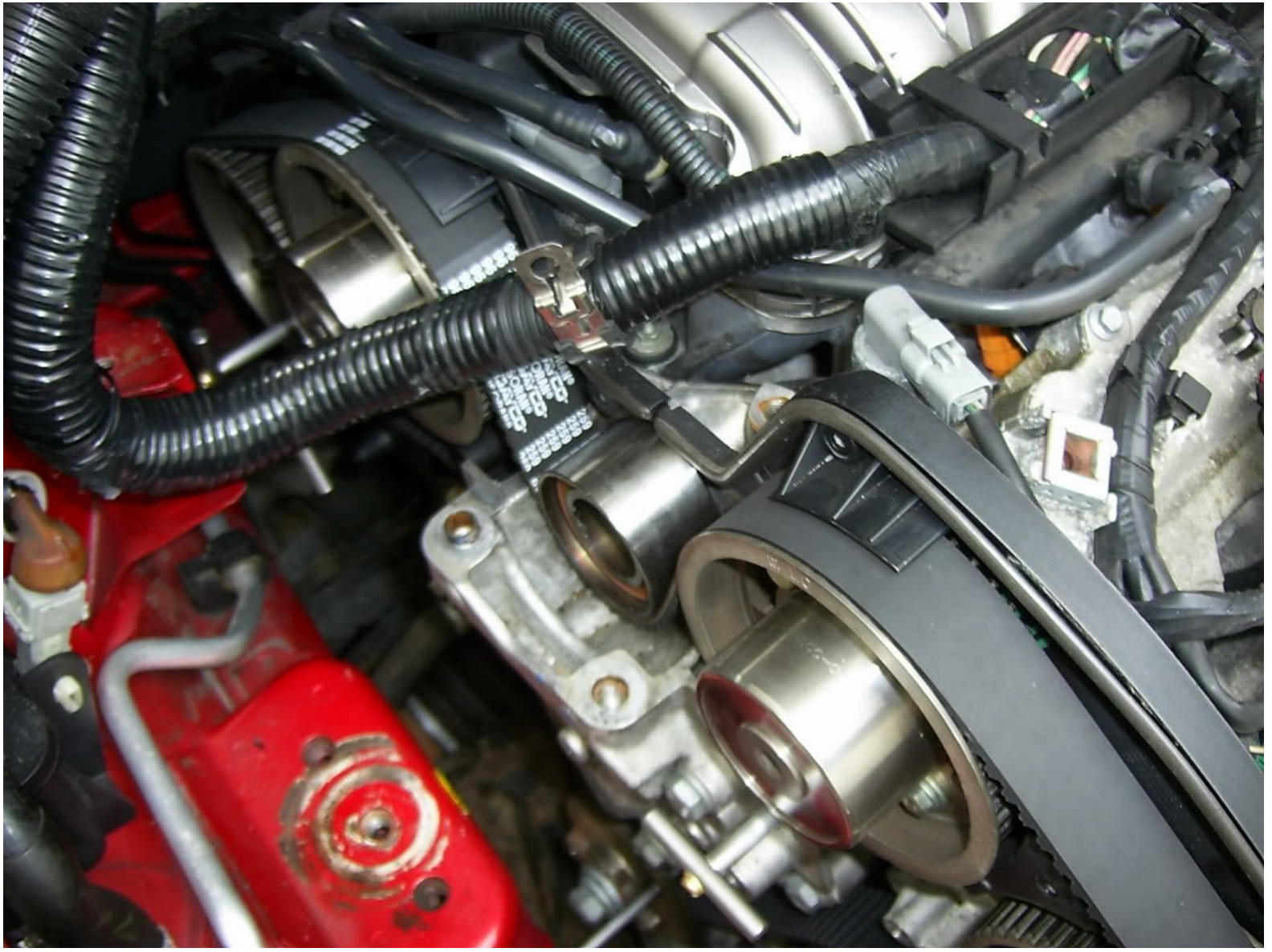
Check tension. Use a mirror to line up the V and the notch. It's difficult to get a front on view without a mirror.



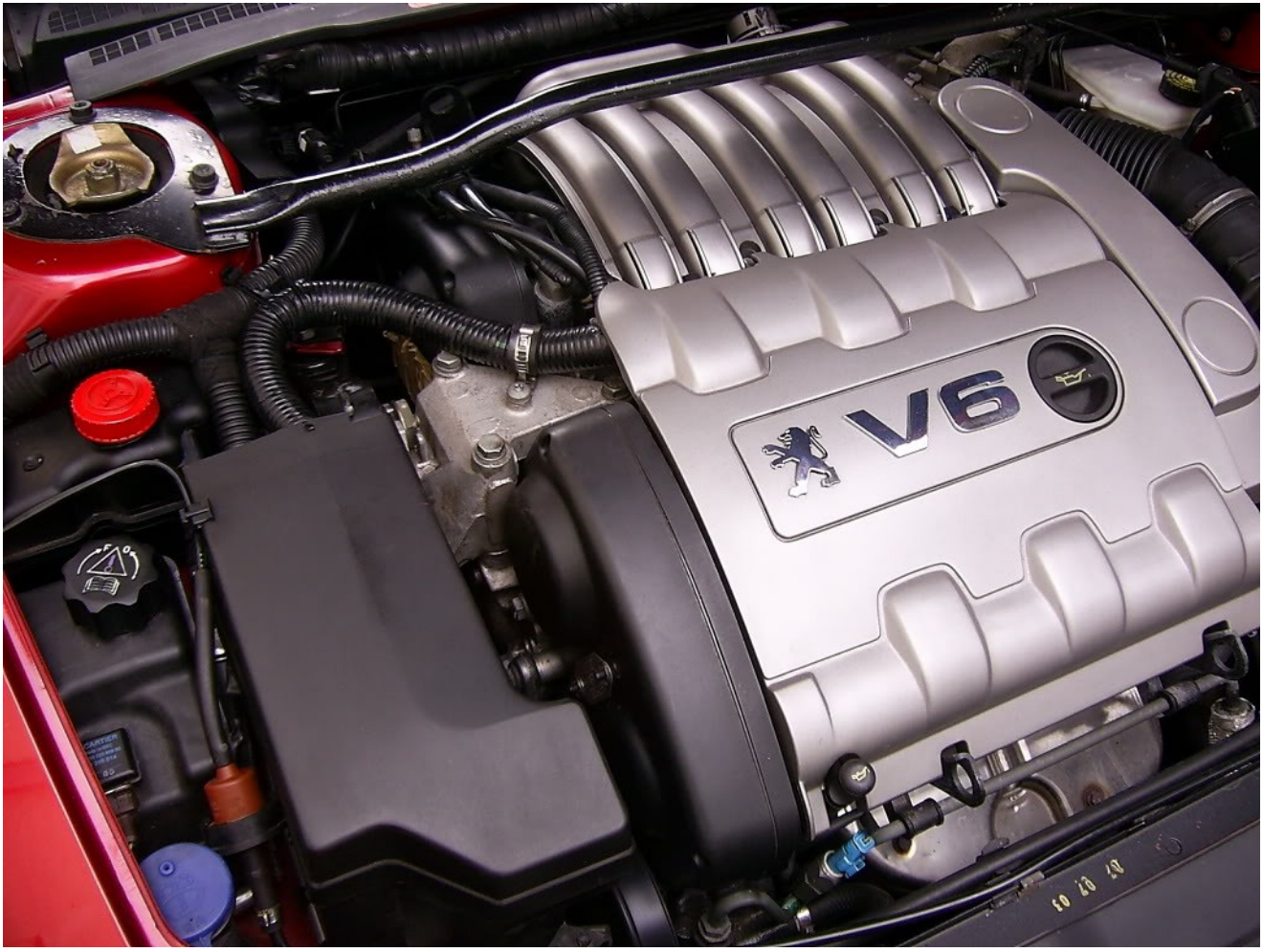
Turn engine over several times (an even number) and re check tension. The more times you rotate engine and check, the better. It helps belt to settle in. You may have to adjust several times.

Line up crank pinion again and refit crank locking pin and make sure the 4 cam pins go straight back in with no resistance. If all ok, that's the cambelt bit done. If not.....start again.

New belt on. With your new belt on and tensioned up ok, you just have refit everything back together.



Back together. I put a new aux. belt on too while I was at it.



I think a lot of people will have been put off by the apparent complexity of this job (me included) but if you follow the Workshop manual pdf. closely and take each step in a logical way, you shouldn't have a problem.

The car seems to have benefitted from having the battery disconnected for a couple of days too. It' much more responsive.

As stated in another thread, if anyone wants to borrow the pins and tensioning tools, I'd be happy to post them off.