How To Change the Oil Pump Casing to the New Beefed Up Front Cam Belt Tensioner.

The Old Casing

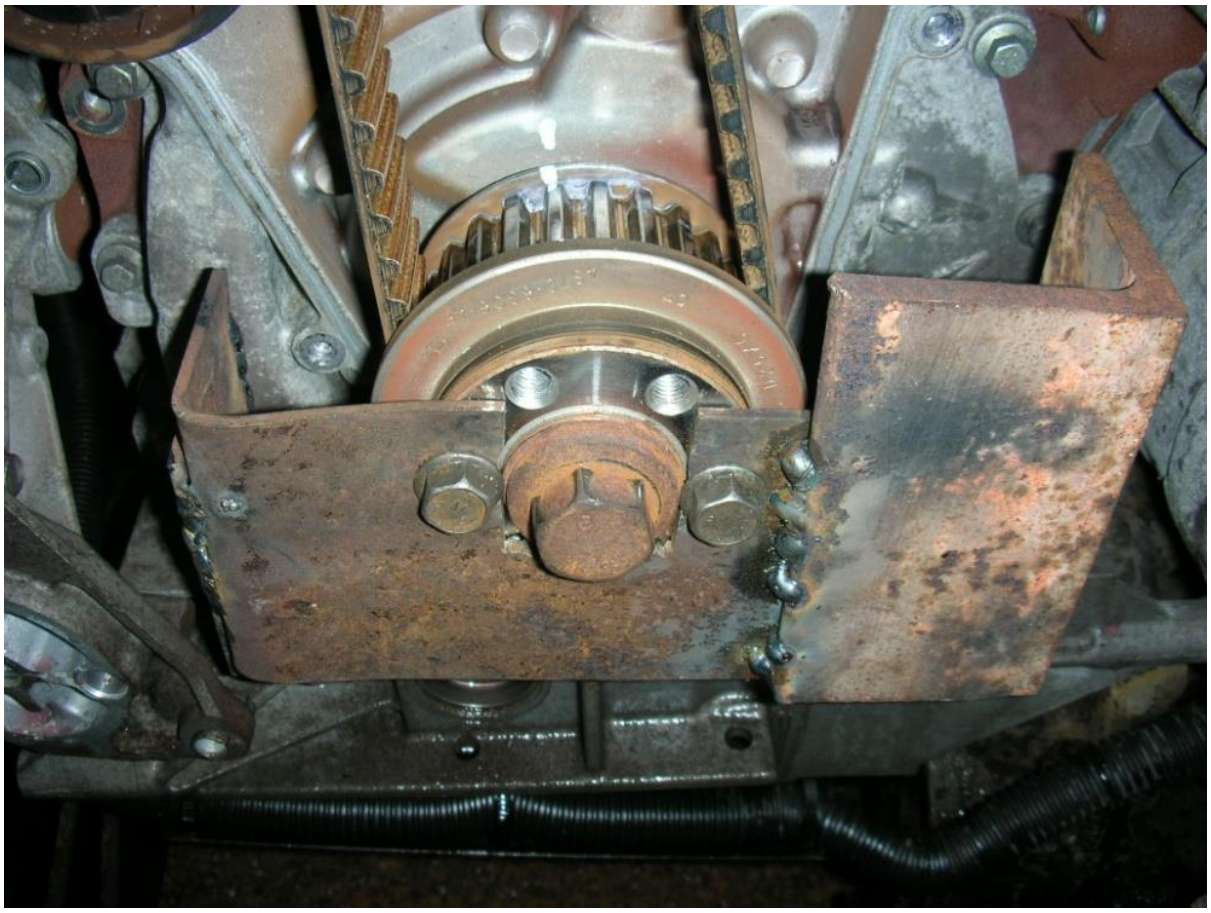
The New One.

Ok Start with following Disco Mikeys how to for the cam belt change on the front belt, up to the point just before you remove the belt and tensioner. Rotate the engine and insert both locking pins in to the cam shafts to get it in the timed position.

Next remove the alternator (battery should have been disconnected) and place in a safe place.

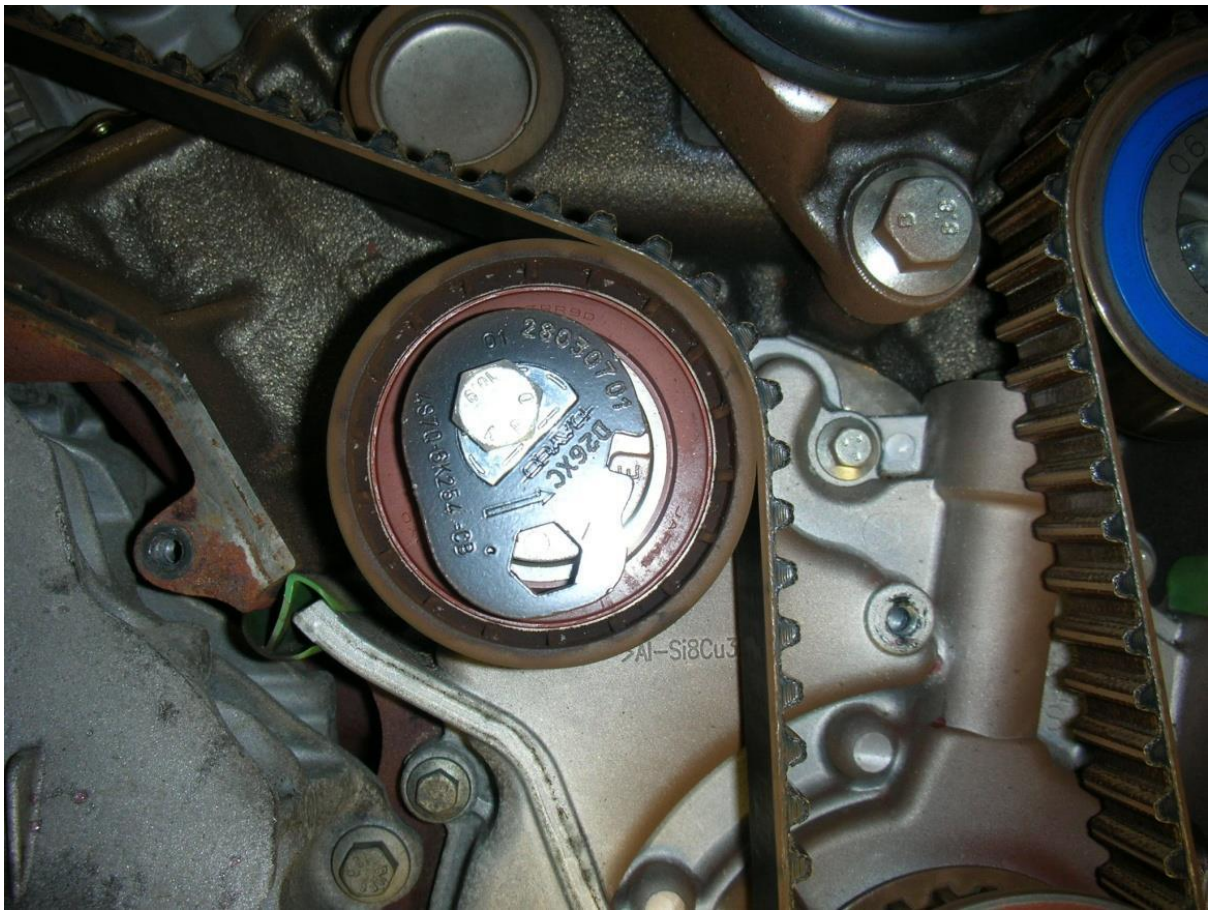
Next remove the alternator mounting bracket, the top upper most bolt is a pain to get to, I just slackened it off enough to swing the bracket out of the way of the Oil pump casing, but if you are doing this I recommend that you remove it as you need access to that area later to remove the starter motor .

Now I made a front crankshaft locking tool to stop the crank turning while I undid the bottom crankshaft bolt, which believe me is very tight and it is a right hand thread. See picture below of home made tool that worked a treat, but I would recommend you do not do it this way on your car, I took a chance with this tool on the crankshaft not moving and it worked but as I will tell you later to be sure you get it right and nothing moves then use the special tools for the cam belt locking pins. All will become clear later on.



Next remove the Cam belt tensioner and the cam belt, then both idler wheels. Its now form this point that you do not move the crankshaft because the bottom pulley has no key way and can be placed back on the crankshaft at any position around the circumference hence why I made my tool and why you must use the flywheel locking pin which involves removing the starter motor and inserting the flywheel locking pin.

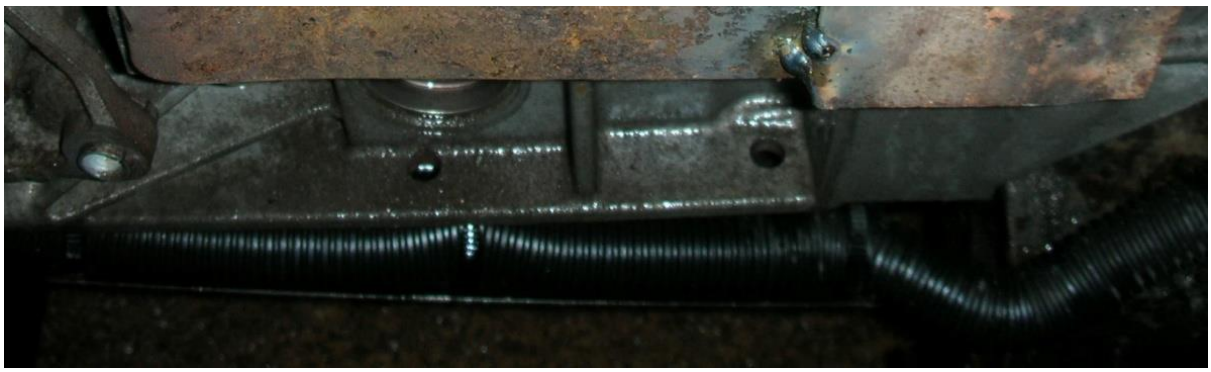
This was my tensioner before I removed it, you can see how much the belt has stretched because the tensioner is not fully aligned in the window.



Once at this point jack up the car and support it on axle stands and remove the lower two engine cover guards.

Next remove the starter motor and place to one side, Insert the flywheel locking pin and lock the crank shaft so its in the timed position, if you have both pins in the cam shaft the flywheel locking pin should go in .

Next remove the loom cable support that runs across under the front of the engine there are two 10mm bolts and the support can just hang there.Next remove the four lower 10 mm bolts that run up through in to the oil pump casing these are quite long bolts. You can see the two holes below where the bolts have been removed and the cable support.



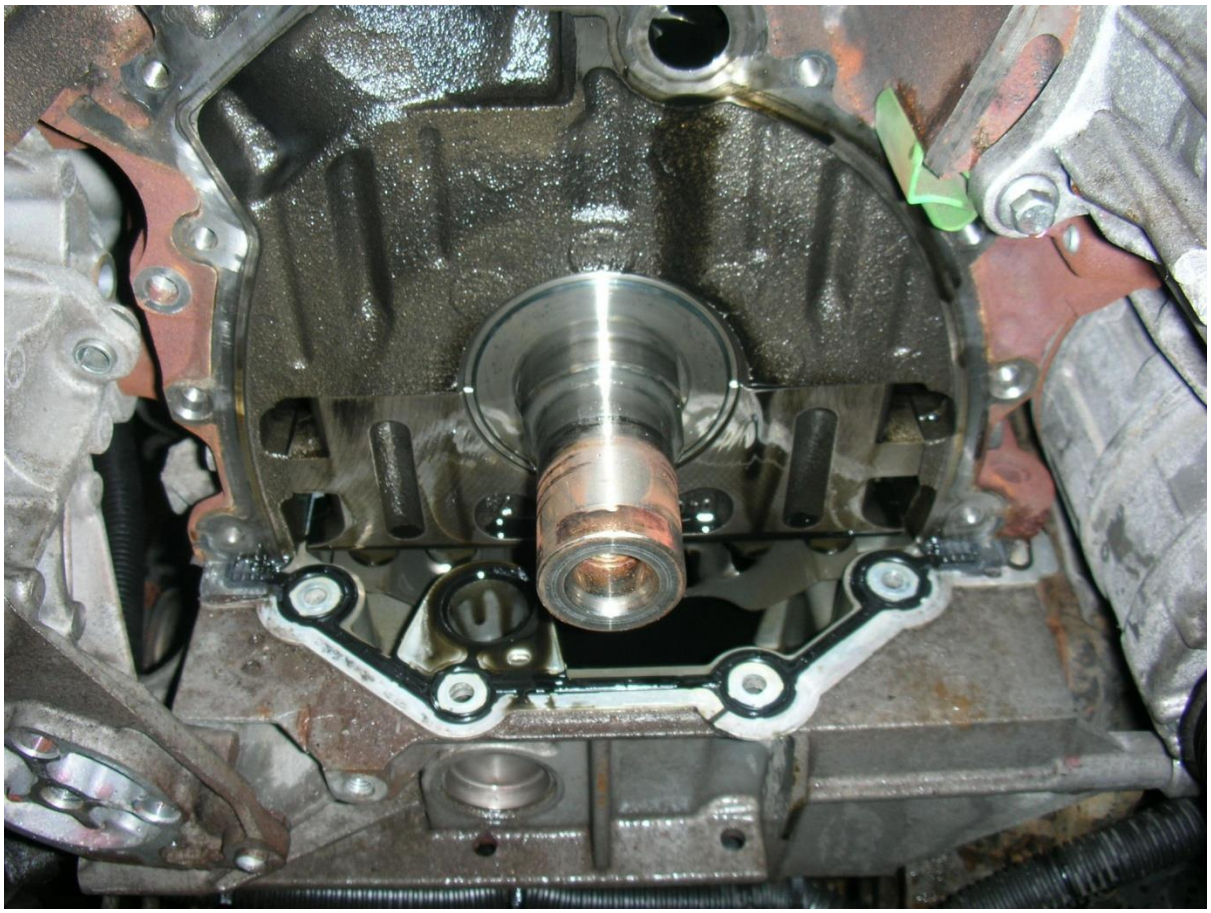
Undo and remove the crankshaft bolt. Remove the crankshaft bottom pulley and place in a safe place.

Now we can start to remove the bolts that hold the Oil pump Casing these are 8mm headed bolts there are 10 around the casing and the four underneath that we removed before.

Now to get the casing off I screwed the old cam belt bolt in to the hole off the tensioner mounting and just kept turning it until I heard the casing pop, then I tapped it lightly with a rubber mallet and it came off fairly easy.

Remember this is the oil pump and will have some oil in it.

My engine with the casing removed, you can just make out the two flanges at the rear of the crankshaft to drive the oil pump.



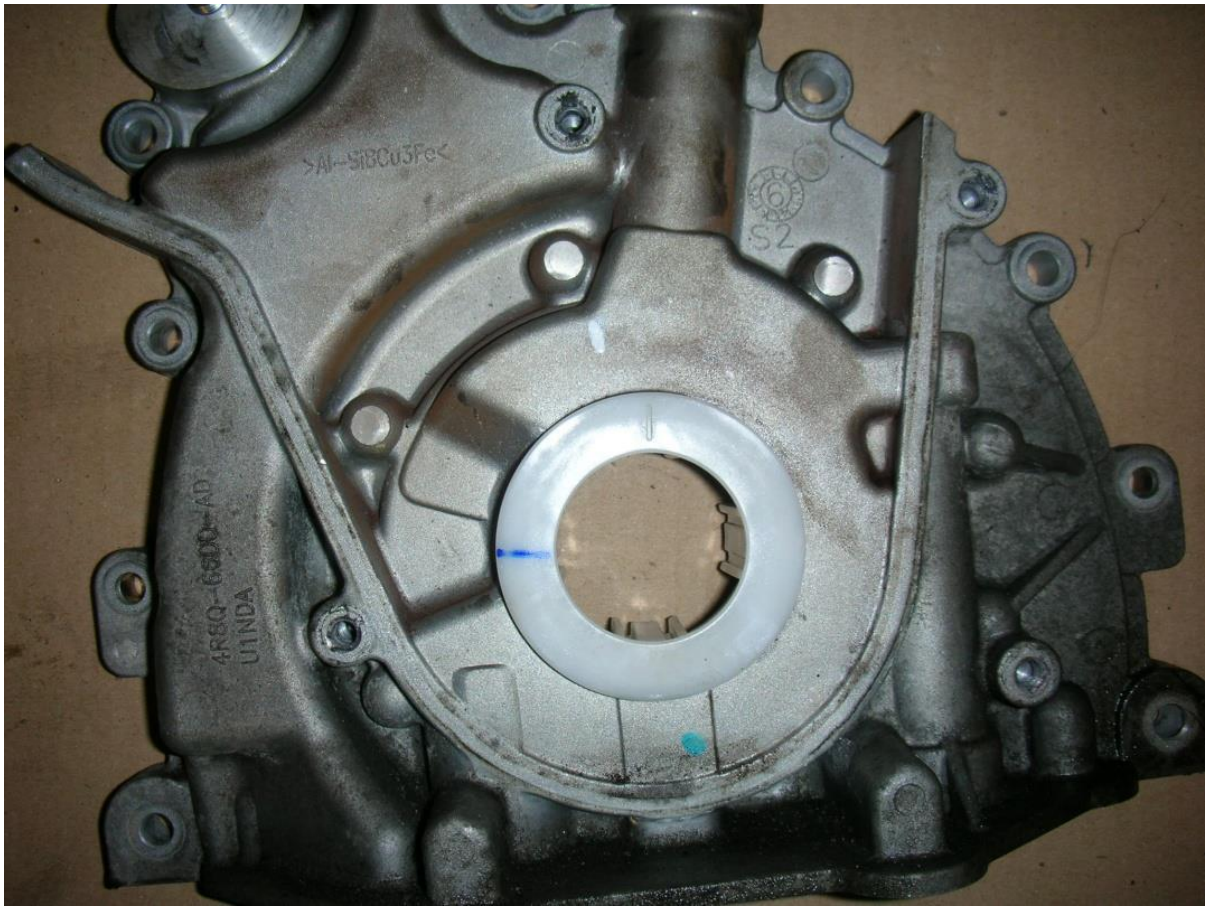
I was very pleased with the inside of my engine as it was very clean there was no soot or carbon build up as I use the 2stroke oil and change my oil every 6,000 miles.

Ok the new casing comes with a new rubber gasket but you have to order the new oil seal for the front of the crankshaft. I posted on a post on the board saying I would fit the front oil seal before I fitted the new casing, but you can't, you have to fit the casing and then the oil seal later.

The reason you have to fit the oil seal after is the new casing comes with a plastic locking ring fitted through the front cam shaft hole, this plastic locking ring holds the oil pump drive in position while you fit the new oil pump casing.

Leave the plastic locking ring in the casing as you fit the casing and the oil pump drive will push the plastic locking ring out while it engages on the drive in the casing ensuring that the oil pump drive is located on the crank shaft fully.

See picture below of the plastic Locking ring in place on my old casing.



In this picture you can see the oil pump drive, I have moved it to one side so it can be seen.

Clean all surfaces and lightly grease the rubber gasket on the casing and on the sump. I also filled up the oil pump drive chamber with clean oil to help prime the system before I started the engine.

Offer the casing up and gently push it on making sure the oil pump plastic drive locking ring is being forced out of the hole as you push the casing fully home.

Just use a rubber mallet to seat the casing fully home and in position.

Now fit the two bolts in the casing at the 9 and 3 o'clock positions and just run them down but do not tighten fully yet, now replaced all the other bolts and tighten all the bolts to 10 Nm.

Fit the four bolts underneath the oil pump casing and tighten to 10Nm.

Fit the Cable loom support bracket and tighten the bolts to 10Nm.

You can now fit the new crankshaft oil seal making sure you don't damage it, slide it on the shaft, I used a big socket over the seal to tap it in but make sure you do not tap it in to far' it needs to be 1mm inset in the casing, If the seal is to far in it will leak after a short time. Note the New Pumps have three ali tabs now to stop the seal going to far in.

Now you can fit the bottom crankshaft pulley and replace the bolt (it recommends you replace this bolt) and tighten it to 100nm first then tighten it a further 90 degrees, believe me this is tight and you need a big beef bar and a good quality socket to tighten this bolt fully, just tighten the bolt to 100Nm first, then the 90 degrees, this is why you need to fit the flywheel locking pin so this does not move as you tighten the bolt up. As you can see in the picture of the oil casing removed the

crankshaft has no key way in it so if it moved and you did not have the flywheel locking pin in then you will destroy your engine if/when you first run it.

From this point on you can now follow Disco Mikeys excellent how to on replacing the cam belt and tensioner and rebuild the car to that document.

Re-fit the alternator and the bracket after removing and refitting the starter motor.

This is a long job it’s a full days job, you can’t rush it so allow a full day to do the belt and change the oil pump casing..

Flack