

Due to the recent 3GS water pump failures, I decided to be proactive and change mine. I also noticed some dried pink coolant crust under the water pump pulley during my last oil change. My car has 96k miles. On a scale of 1-10 with 10 being the most difficult I number this job a 4. It took me 2.5hrs.

Disclaimer: Attempt at your own risk. This is the method that I found most useful and efficient – yours may differ and may not be the exact as described herein. As with any do-it-yourself project, unfamiliarity with the tools and process can be dangerous. This project should be construed as theoretical advice. \*I will not be held responsible for any injury due to the misuse or misunderstanding of this\*DIY project.

Here we go:

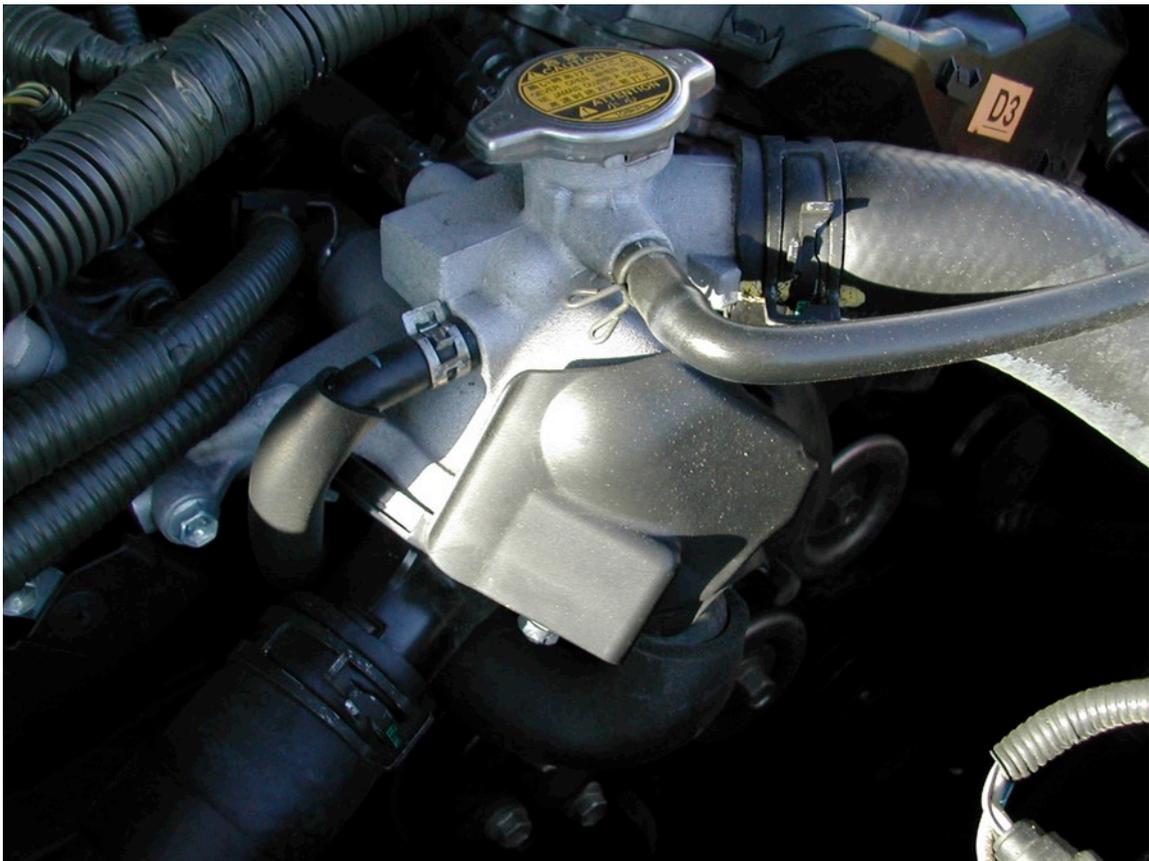
First stuff needed: water pump assembly (Aisin), 2 gaskets, water pump gasket, idler pulley and new serpentine belt. If you do not drain your radiator, you only need one gallon of Toyota long life coolant, but I drained radiator so I needed every bit of 2 gallons.





Next, disconnect negative battery terminal and remove engine covers. There are a couple other basic plastic covers that need to be removed as well.

Remove cap and drain radiator. Use a tube for less splash. I placed a plastic bin underneath.

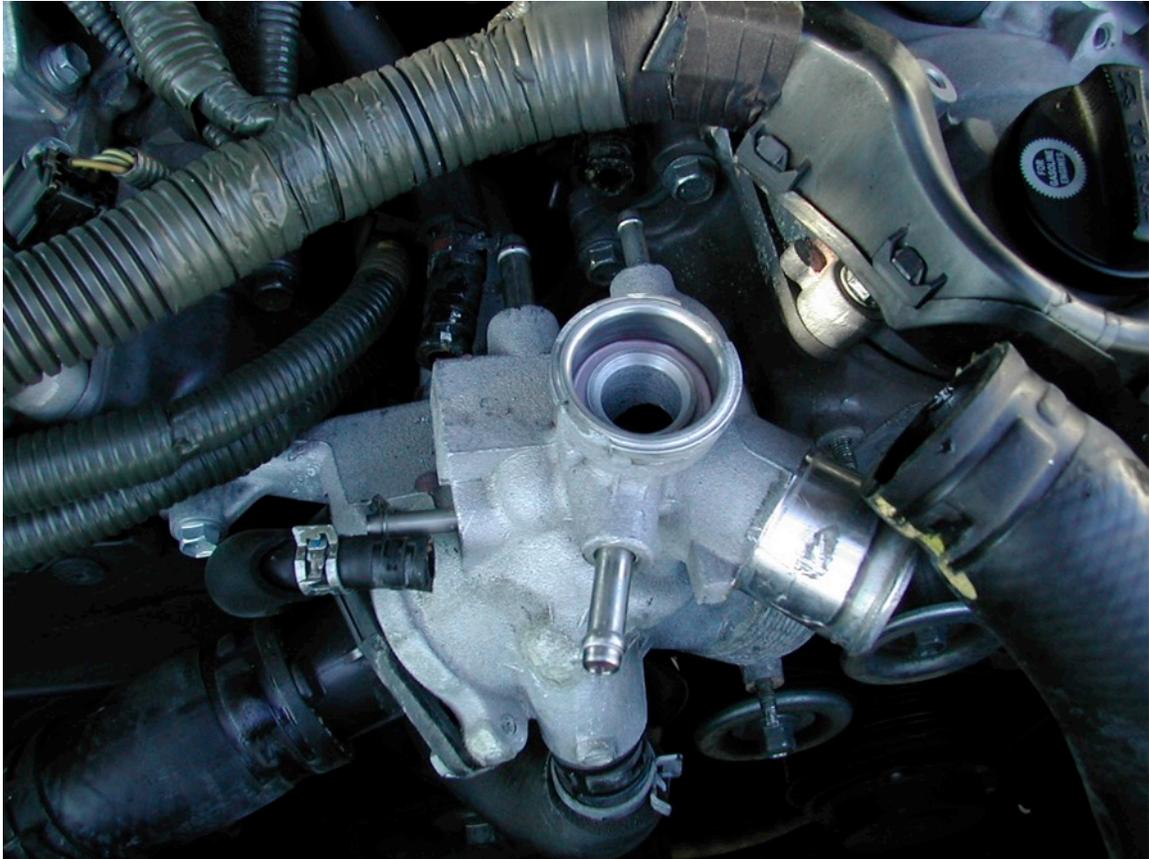




I also removed reservoir, drained and cleaned. Easy – two 10mm bolts.



Remove all hoses from assembly. There should be 7.



I went ahead and loosened water pump pulley. 4 bolts, all 12mm. The tension on the belt allows you to break loose so you do not need a special tool.



Next I removed the belt. Use 14mm wrench on tensioner pulley, pulling toward water pump pulley – this allows you to free tension and belt. Overall belt didn't look too bad.



Next I removed the pulley. It was evident I had a leak. Look at the back of the pulley.

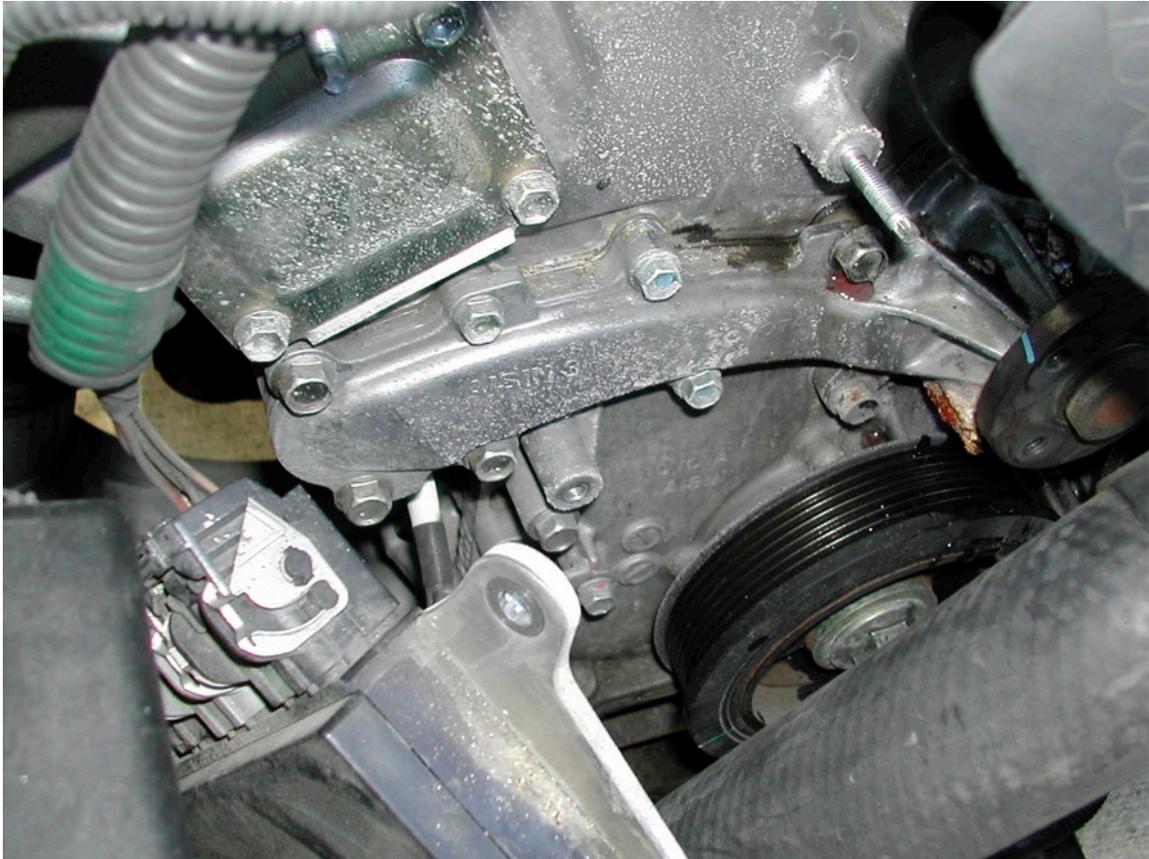


Now that I can see the water pump, look at it as well – pink coolant crust.

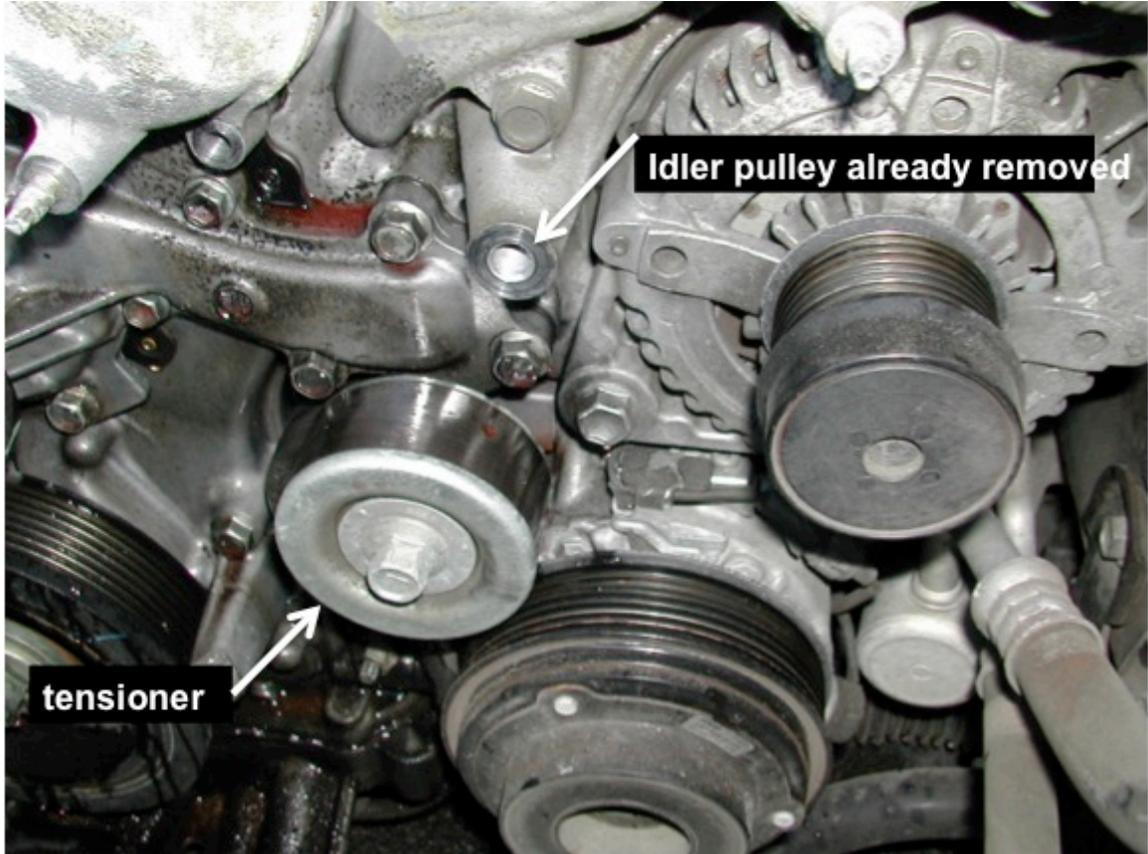


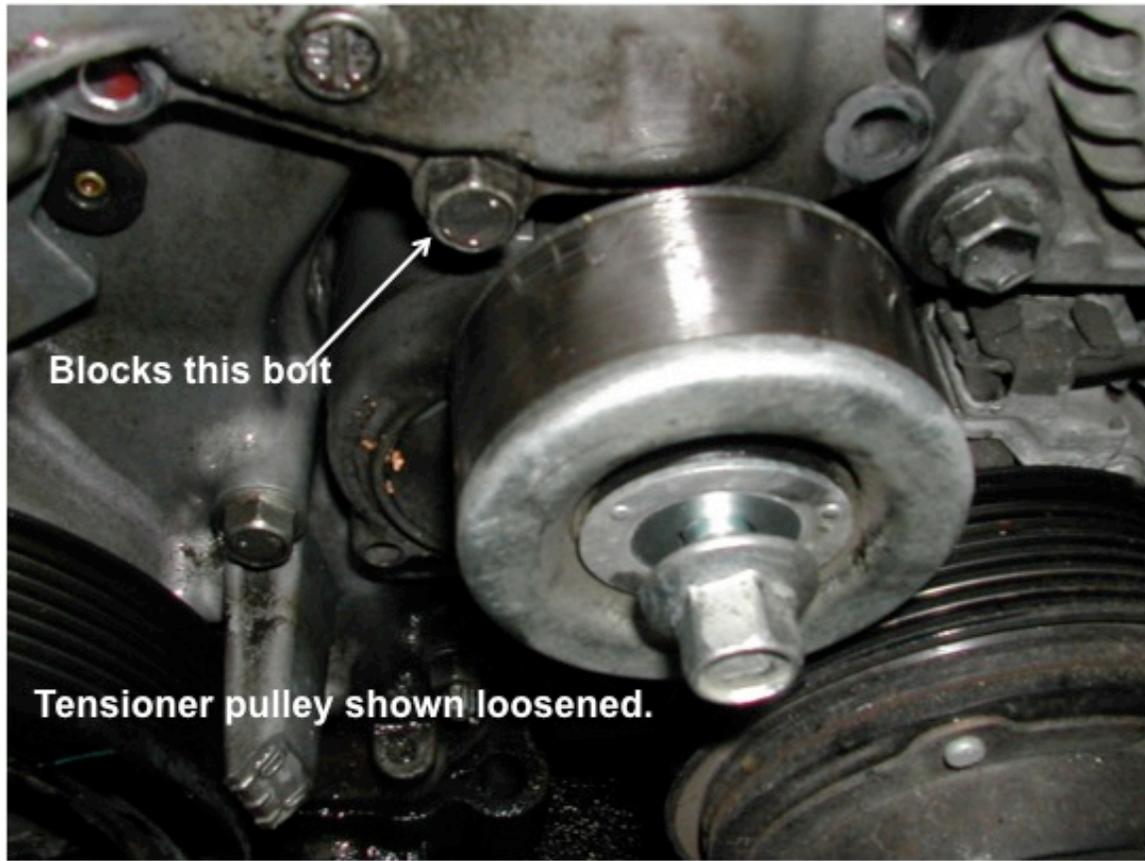
Next I removed the injector drive. 2 10mm nuts and 1 10mm bolt (underneath – don't miss this). I then just put it out of the way – no need to completely remove electrical lines.





Next I removed both the idler pulley (already removed in 1<sup>st</sup> pic. I replaced this) and the tensioner pulley. The tensioner blocks 1 of the 16 bolts that holds the water pump assembly.





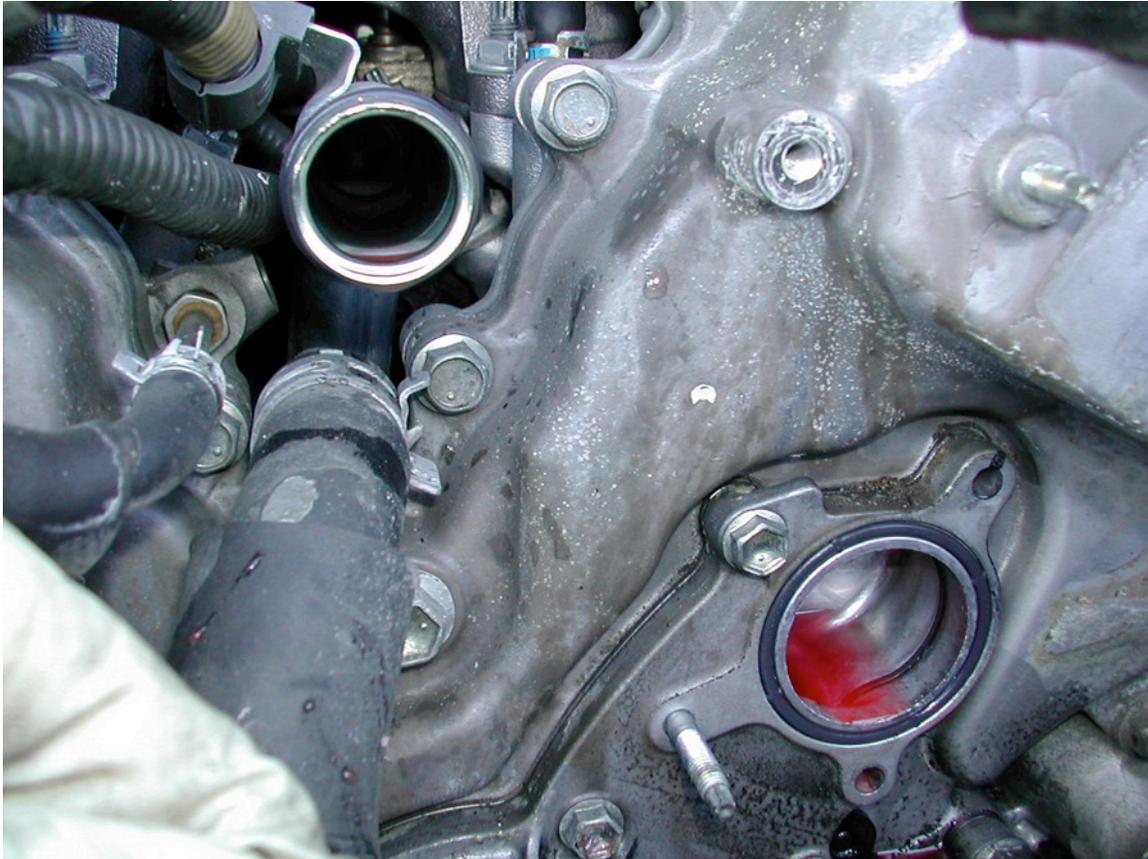
Next I removed the water inlet assembly. A little tricky here. Once you remove the four bolts and nut all 10mm, you need to pull the assembly toward the front of the car. Mine was super tight.

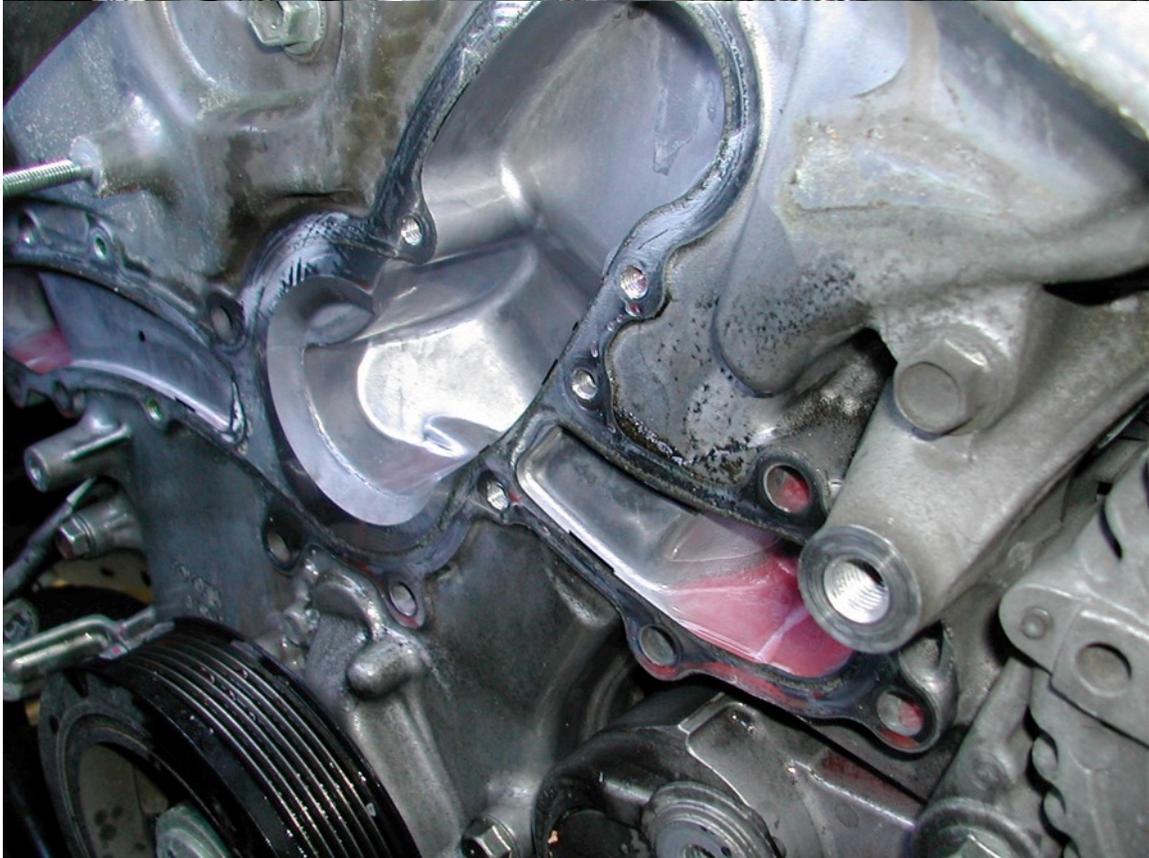


Now you can removed all 16 bolts (some 10mm and others 12mm) for the water pump assembly.

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Old assembly





Add Loctite to bolts and install new one.





Reverse the other steps to reinstall everything else, add coolant and your good-to-go.



