

740 Waterpump Replacement

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Some DIY mechanics suggest changing the waterpump whenever you change the timing belt. I don't find that necessary. I change the waterpump when I discover it is leaking.

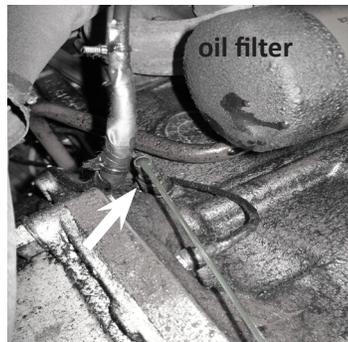


New GMB waterpump. Kit comes with hat washer, ring washer, gasket, 3 brass bolts with thin washers, 2 nuts and thick washers.



1. Drive car onto ramps. Set handbrake. Chock rear wheels.

2. Remove the plastic oil pan guard from underneath car (13-mm bolts) so you can see where the leak is and to access some of the bolts on the underside of the waterpump.



3. Open drain cock (arrow), underneath passenger side near oil filter, using 13-mm box wrench. Drain coolant into pan. Open cap of coolant reservoir to help drain. Dispose of used antifreeze properly. Close drain cock when done draining.



4. Remove 2 8-mm machine screws from top of radiator bell housing



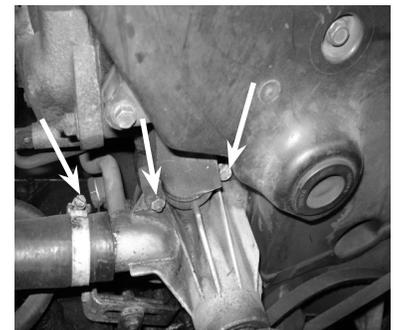
5. Dismantle fan/clutch assembly by removing 4 10-mm nuts (arrow) using open end wrench.

6. Lift fan/clutch assembly out.

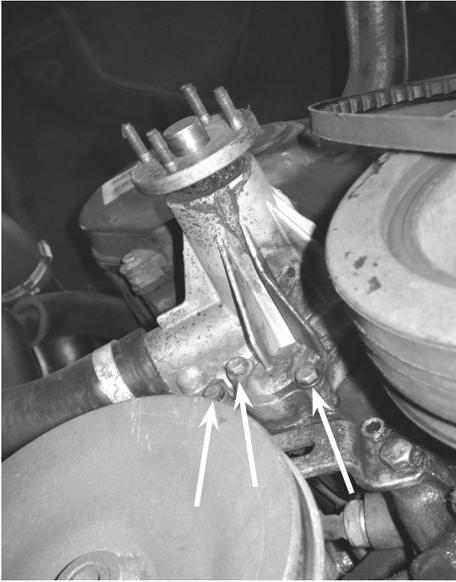
7. Lift fan shroud out.



8. Pull waterpump pulley off. You may have to slip the fan belt off the power assist pump to make it easier; leave other end of belt on crankshaft pulley.



9. Loosen hold-down clamp on hose going into left side of water pump (arrow); hose is tight and may not come off easily. If it does not come off, don't worry about it. It is easier to remove once waterpump is loose. Loosen 11:00 nut, top (arrow). Loosen 1:00 bolt, top (arrow).



10. Loosen 3 bolts on bottom (arrows). Left bolt has nut on back. Middle and right bolts thread into engine block. Compare with step **22**.



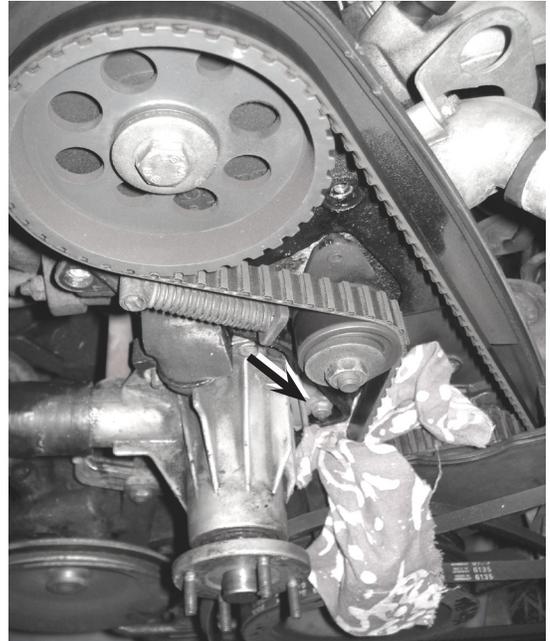
11. The left bolt of previous photo holds the red pipe going into arm of waterpump.



12. Remove top 1/2 of timing belt cover to get to last bolt in waterpump. First remove Phillips screw (arrow) back of top cover.



13. Upper timing belt cover. Remove 10-mm bolt, 1" long, left top (arrow). Remove 10-mm bolt, 1 3/4" long, right top (arrow). Remove 12-mm bolt, 2" long, right middle in depression (arrow).

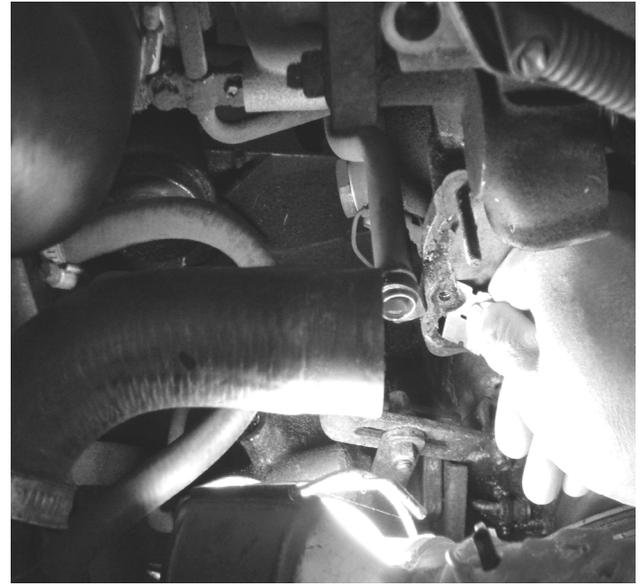


14. Removal of timing belt cover exposes rightmost 10-mm nut (arrow) of water pump. Stuff a rag under nut to cover opening of bottom 1/2 of timing belt cover; DO NOT LOSE NUT INTO THIS CAVITY. Otherwise, you'd have to remove whole timing belt cover to recover that fallen nut. A long thin pick-up magnet also helps prevent nut from going anywhere.

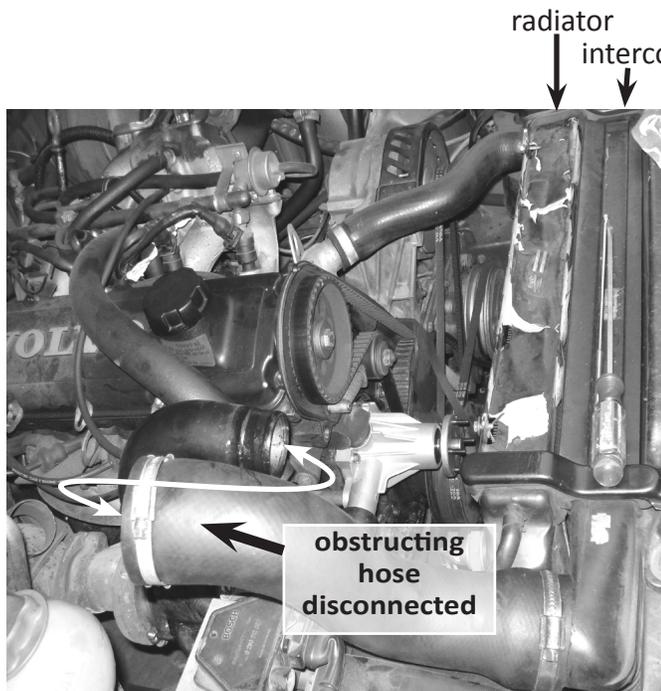
15. Pull water pump assembly off

16. Pry under lip of radiator hose on left intake of water pump with long flat screwdriver. Rotate waterpump to work hose off.

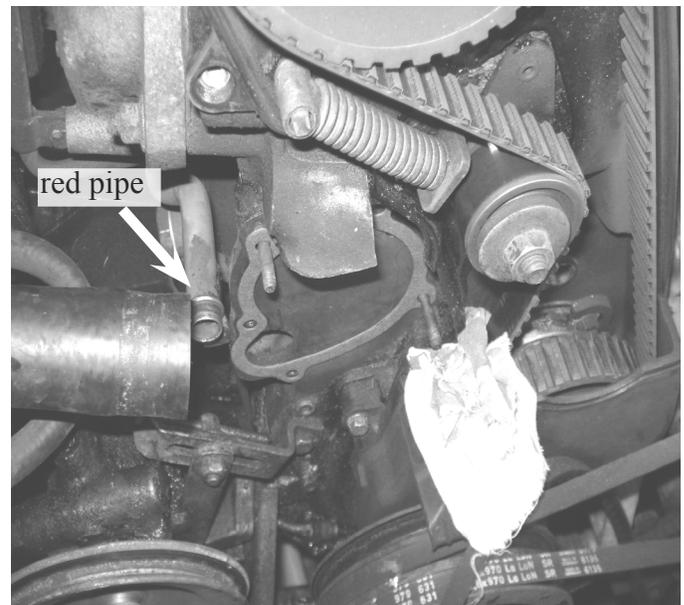
Old waterpump should now be free.



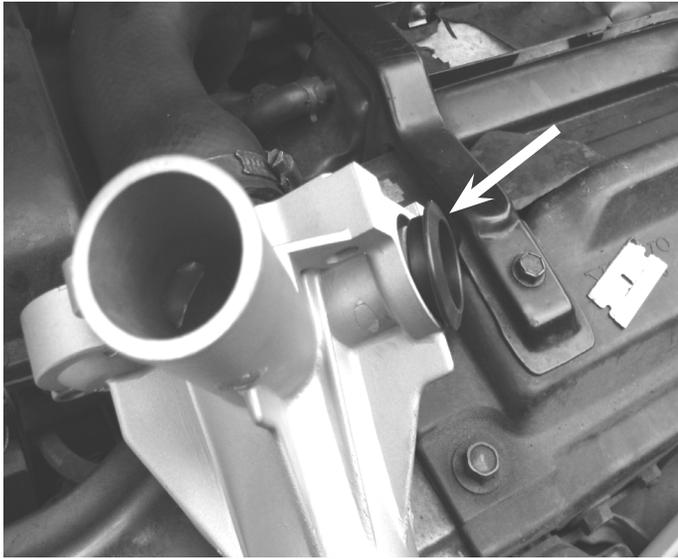
17. Scrape old gasket off with a razor blade. I also used a wideblade wood cutting tool. Finish with fine sandpaper and paper towels.



18. On turbocharged engines with intercooler, to easily access the 10-mm nut in back of waterpump that holds the red pipe and flange, disconnect the obstructing top intercooler hose. Loosen clamp at intercooler end; rotate hose out of way.



19. Pull off old ring washer on red pipe (arrow) and put on new one. Hang gasket on the two studs. Make sure the rag is still stuffed over chasm in timing belt cover. Some people put gasket seal on the gasket. I don't find it necessary.



20. Put hat gasket (arrow) into top cavity of waterpump.



21. Slide waterpump over studs. Put bottom middle bolt in first, not all the way in. Put in right bottom bolt in, not all the way in. Install all fasteners so that they “bite” into the threads. You will find it difficult to get a “bite” on top right bolt. To do so, push down on left horizontal arm of waterpump while pulling up on right side; still pushing down on left arm, finger thread the top right bolt until it “bites.”

No new bolt to hold red pipe came with the kit. Use the old bolt and nut. Oil the threads. Install nut in back of flange and tighten loosely.

Tighten all nuts and bolts in diagonal fashion:

- (i) is top left bolt
- (ii) is top right bolt
- (iii) is middle right nut
- (iv) is bottom right bolt
- (v) is bottom middle bolt
- (vi) is bottom left (old) bolt through red pipe flange with nut in back.

I did (i) then (iv), then (ii) then (v), then (iii) then (vi). Did this several times.

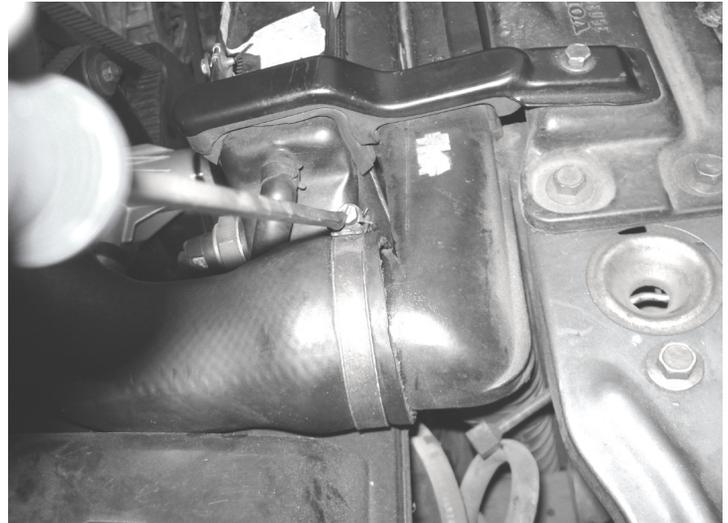
Final tightening was done with a 1/4” drive, 5” long socket wrench with hand over center of socket wrench. **Do not overtighten!** You can do a bit more tightening, if necessary, when you’re checking for leaks. If you tighten too much, you run the real risk of snapping a bolt—with all the headaches that entails.



22. Shows underside of new waterpump and bolts (iv), (v), and (vi), right to left respectively (arrows).



23. Install radiator hose and clamp onto left side arm of waterpump.

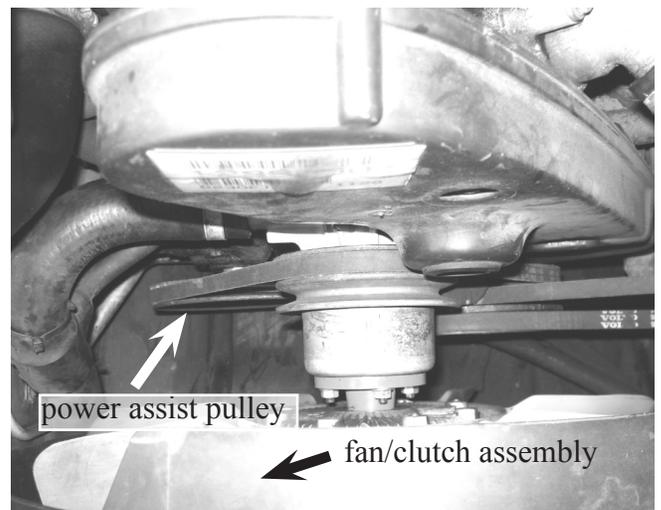


24. Reconnect top intercooler hose (the obstructing one of Step 18) and tighten clamps (shown here).

25. Slide top ½ of timing belt cover on. 12 mm, 2" long bolt goes into right middle. Insert right upper 10-mm, 1 ¼" bolt and tighten. Insert upper left 10-mm, 1 ¼" bolt and tighten. Insert Phillips screw into top back of cover and tighten.

26. Check backside of waterpump pulley and clean, if dirty.

27. Install radiator bell housing by inserting bottom tabs into frame at bottom. Insert and tighten the 8-mm machine screws at top.



28. Pull fan belt onto inner groove of waterpump pulley and slip fan/clutch assembly onto the studs. Make sure belt fits over power steering assist pulley. Install and tighten 10-mm nuts on fan/clutch assembly in a diagonal fashion.

30. Add new coolant (50/50 antifreeze and water mixture is usually recommended) to engine. Make sure drain cock is closed.

31. Run engine and check for leaks. If leaking, identify source. Turn off engine and tighten fasteners a bit more.

Done!

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