M119 Water Pump R&R

R&R'ing the M119's water pump isn't too difficult, if you have the proper tools (pulley counter-hold; reverse Torx socket for updated tensioner; (2) 3-ft. prybars; and 1/4-drive sockets/wrench) and a good/accurate and small torque-wrench (I have a Mountz 1/4"-drive that reads 0-30 Nm in quarter Nm increments).

Here are some caveats/tips:

1) clean the front of the engine with a good engine degreaser;

2) use a THIN coating of Hylomar sealant on all gaskets;

3) clean with a bronze wire-wheel and rinse with brake cleaner ALL bolts;

4) use high-temp anti-seize on all bolts (steel) that go into aluminum;

5) you do NOT need to remove the radiator, just the viscous-fan/clutch assembly and shroud;

6) you do NOT need to remove the lower alternator bolt, just loosen it;

7) if you do NOT have a pulley-holder, use an air-ratchet to loosen the water pump and idler pulley bolts (NOT tensioner pulley) with the serpentine belt still on (acts as a counter hold);

8) use different colored paint on the bolts to keep track of them and write-down the key/ legend;

9) turn the crankshaft bolt (CLOCKWISE ONLY) to TDC and mark with paint the orientation/ location of the following: pulley to harmonic dampener; harmonic dampener to crankshaft bolt);

10) soak the CENTER of the harmonic damper to crankshaft bolt with AeroKroil; PB Blaster, or a good quality penetrant (e.g., AeroKroil), preferably overnight;

11) you do NOT need to remove the crankshaft bolt (400Nm) to remove the dampener;

12) remove the dampener using TWO 3-ft pry-bars (left & right side) by gently wiggling out the dampener and being careful where you brace the pry-bar for leverage;

12) gently clean the mating surface of the engine block to water pump with a bronze wire-wheel and wipe-down with brake-cleaner and number the bolts;

13) REPLACE the thermostat (clean all hose connectors and mating surfaces);

14) place a rag under the REAR thermostat housing's bolt so if it drops, it doesn't go into never-land and have spare M6-20mm bolts;

15) use anti-seize on the thermostat cover bolts and NOTE only 10-Nm on these;

16) use a heat gun on LOW or a hair-dryer to "soften" the water-pump's weep-hole pipe and then gently tug off the water pump and use the same heat source to "soften" the pipe when re-installing;

17) remove the pipe and tank (one bolt) to make disassembly easier;

18) when replacing the idler-pully bracket, keep the bolts with enough slack since you have to align/bolt-up back the air pump; alternator AND bracket back to the block;

19) when replacing the thermostat elbow hose, smear a little Hylomar on the metal hose housings to facilitate moving/bending the hose into place;

20) REPLACE the hose between the thermostat TOP housing and INTAKE and the gasket (thin film of Hylomar);

21) DO NOT OVER TIGHTEN esp. with anti-seize on bolts and into aluminum. Most bolts are 21 Nm, but with anti-seize on them, it's closer to 12-15 Nm. Do NOT use a 3/8-drive ratchet to put any bolts ON, only 1/4-drive with about a 5-inch long handle so I don't overly torque anything.

BTW: I use a vacuum-based coolant installer that basically uses the compressed-air to create a vacuum in the cooling system, and then by flipping a valve, I suck in my 70% distilled water and 30% G05/Mercedes coolant with Redline Water-wetter.

Hope this helps!

:-) neil

1988 E36T AMG
1993 500E