

**IN-VEHICLE SERVICE (Continued)**

(Continued) IN-VEHICLE SERVICE

6. Install timing cover / water pump assembly onto cylinder block with water pump pulley loosely attached to water pump hub.
7. Hand start cover retaining bolts. Apply Pipe Sealant with Teflon® D8AZ-19554-A (ESG-M4G194-A and ESR-M18P7-A) or equivalent to bolt numbers 1, 2 and 3 as illustrated.
8. Tighten retaining bolt numbers 1 through 10 to 25 N·m (19 lb-ft) and numbers 11 through 15 to 10 N·m (7 lb-ft).
9. Clean inside of oil pan and install as outlined. Tighten retaining bolts to 10-14 N·m (8-10 lb-ft).
10. Hand tighten water pump pulley retaining bolts.
11. Install crankshaft damper and pulley as outlined. Tighten damper bolt to 125-165 N·m (93-121 lb-ft) and the four pulley bolts to 20-30 N·m (15-22 lb-ft).
12. If camshaft position (CKP) sensor was removed from front cover (3.0L FF only), install sensor and tighten retaining bolts to 5-7 N·m (44-61 lb-in).
13. Install automatic belt tensioner. Tighten two retaining nuts and bolt to 48 N·m (35 lb-ft).
14. Install 6K accessory drive belt as outlined in Section 03-05. Tighten water pump pulley retaining bolts to 20-30 N·m (15-22 lb-ft).
15. Install lower radiator hose and heater hose. Clamp securely.
16. Fill and bleed cooling system.
17. Fill crankcase with correct viscosity and amount of engine oil.
18. Connect battery ground cable.
19. Start engine and check for cooling, exhaust and oil leaks.

4. Using a 1/2-inch breaker bar, rotate automatic tensioner to the right. Remove 6K belt.
5. Remove two nuts and one bolt retaining automatic belt tensioner to engine. Remove the assembly.
6. Disconnect and remove heater hose from water pump. Remove CKP sensor wire harness from locating stud (FF only).
7. Remove 11 water pump to engine retaining bolts.
8. Lift water pump and pulley up and out of vehicle.

**Installation**

**NOTE:** Lightly oil all bolt and stud bolt threads before installation except those specifying special sealant.

**CAUTION:** Use care when scraping as aluminum gouges easily which may form leak paths.

1. Clean gasket surfaces on water pump and front cover.
2. Position a new gasket on water pump sealing surface using Gasket and Trim Adhesive D7AZ-19B508-AA (ESR-M11P17-A and ESE-M2G52-A) or equivalent to hold the gasket in place.
3. With pulley loosely positioned on water pump hub, align water pump to timing cover and install retaining bolts.

**NOTE:** Apply Pipe Sealant Vibraseal 516 EST-M4G208-B or equivalent to bolt No. 3 (as illustrated) prior to installation.

4. Tighten retaining bolts as follows: No. 3, 4, 6, 7, 8, 9 and 10 to 20-30 N·m (15-22 lb-ft), and No. 11, 12, 13, 14 and 15 to 8-12 N·m (71-106 lb-in). Install CKP sensor wire harness (FF only).
5. Hand tighten water pump pulley retaining bolts.
6. Install automatic belt tensioner assembly. Tighten two retaining nuts and bolt to 48 N·m (35 lb-ft).
7. Install the 6K accessory drive belt as outlined in Section 03-05. Tighten water pump pulley retaining bolts to 20-30 N·m (15-22 lb-ft).
8. Install heater hose. Clamp securely.
9. Fill and bleed cooling system with specified quantity and type coolant.
10. Connect battery ground cable.
11. Start engine and check for coolant and oil leaks.

**Water Pump**

**Removal**

1. Disconnect battery ground cable and set aside.
2. Drain cooling system.
3. Loosen four water pump pulley retaining bolts while accessory drive belts are still tight.

W.P.—Water Pump Assy  
F.C.—Front Cover Assy