

Water Pump: Service and Repair

REMOVAL

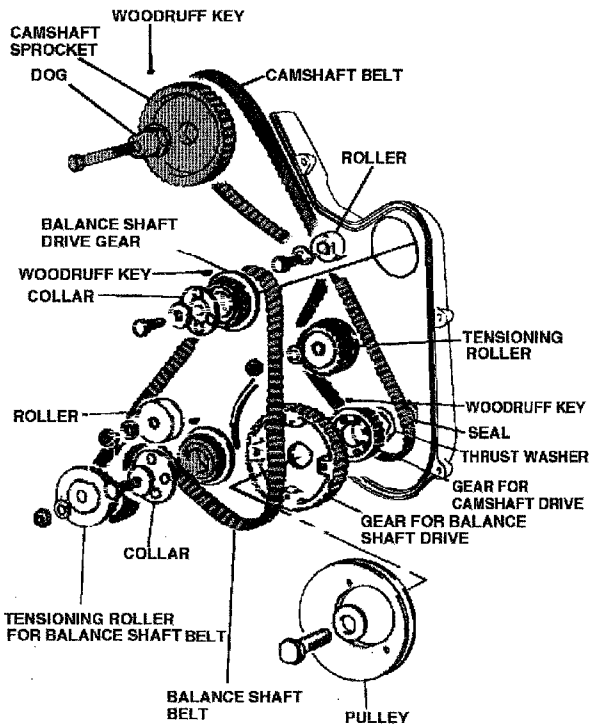
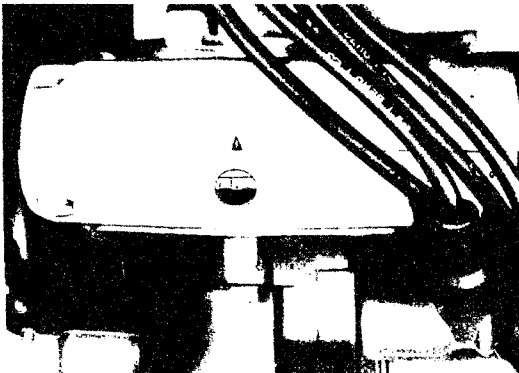


Fig. 2 Balance shaft drive & camshaft drive exploded view.

1. Drain coolant from cold engine by setting heater control lever to warm position and unscrew drain plug.
2. Disconnect negative battery cable.
3. Remove air cleaner assembly.
4. Remove lower radiator hose.
5. Remove accessory drive belts.
6. Remove upper and lower front timing belt covers.



TDC Mark 16 Valve

Water Pump: Service and Repair

REMOVAL

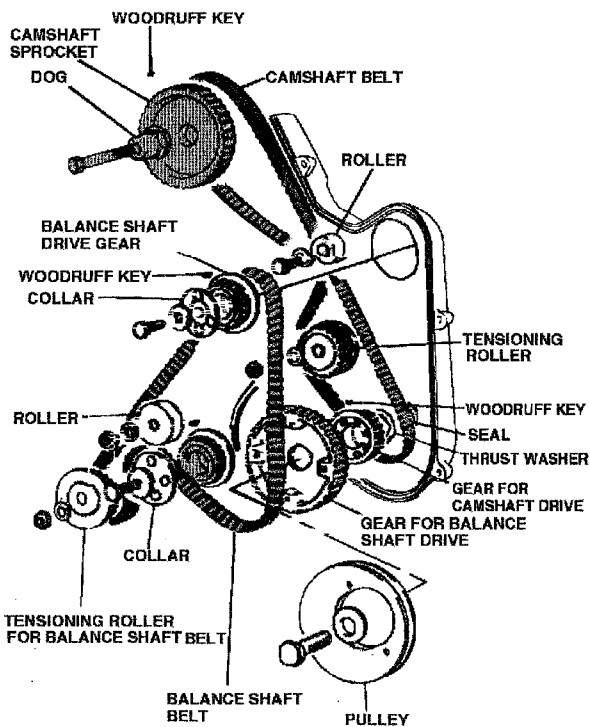
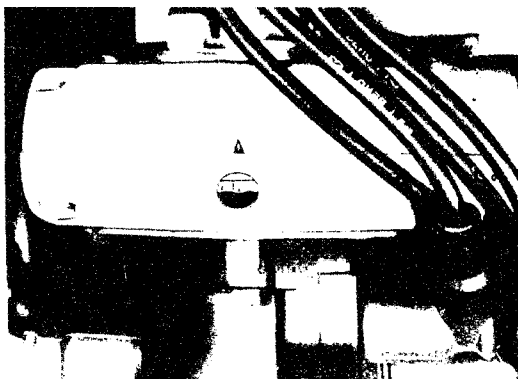
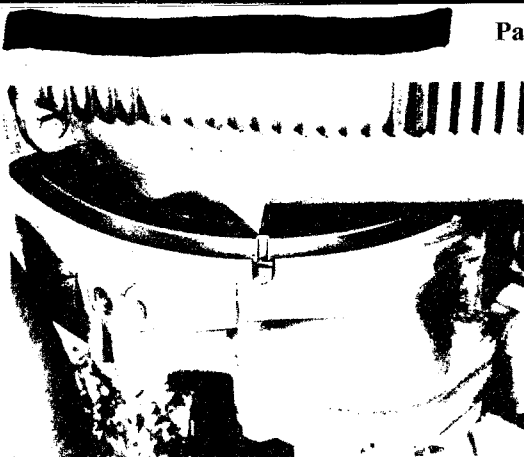


Fig. 2 Balance shaft drive & camshaft drive exploded view.

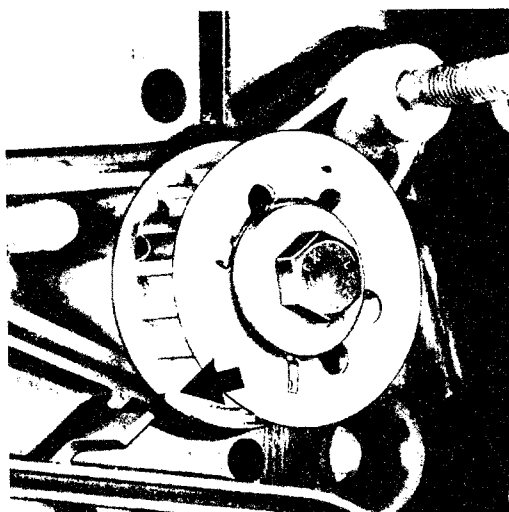
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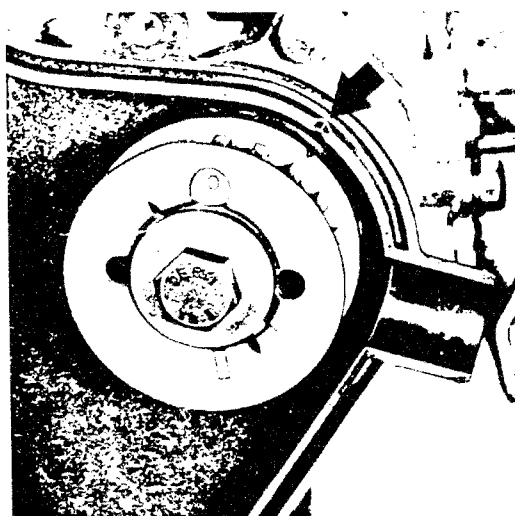


TDC Mark

7. Rotate engine to TDC cylinder #1. Also check TDC mark on flywheel.

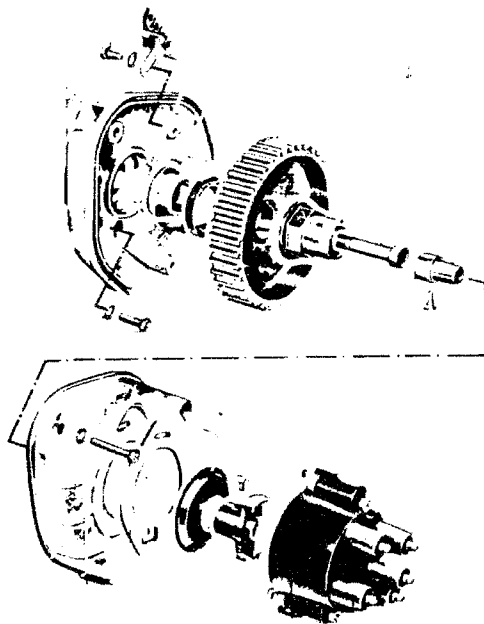


Lower Balance Shaft Timing Mark



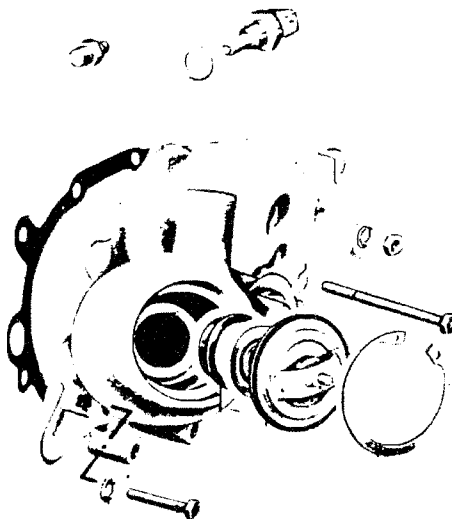
Upper Balance Shaft Timing Mark

8. Ensure alignment of balance shaft marks.



Distributor Console

9. Remove distributor cap, distributor rotor, distributor protective cover, and distributor cap console.
10. Loosen balance shaft tensioning rollers and remove balance shaft drive belt.
11. Remove balance shaft drive gears.
12. Loosen timing belt tensioning roller and remove timing belt.
13. Remove crankshaft pulleys and drive gears.
14. Remove rear timing cover.



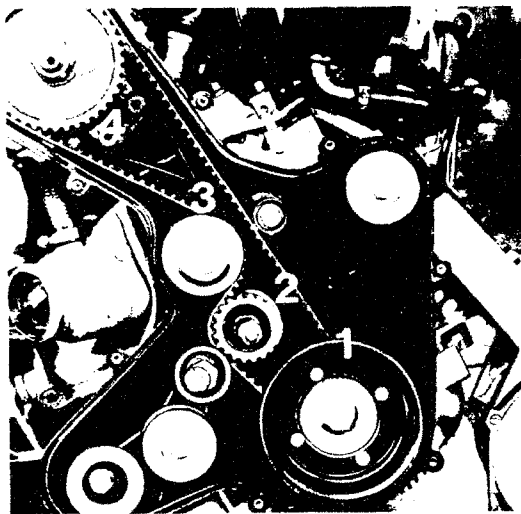
Water Pump Assembly

15. Remove water pump retaining bolts and remove water pump.
16. Exchange parts on water pump as necessary.

NOTE: Check the condition of the balance shaft and the camshaft seals. Replace as necessary.

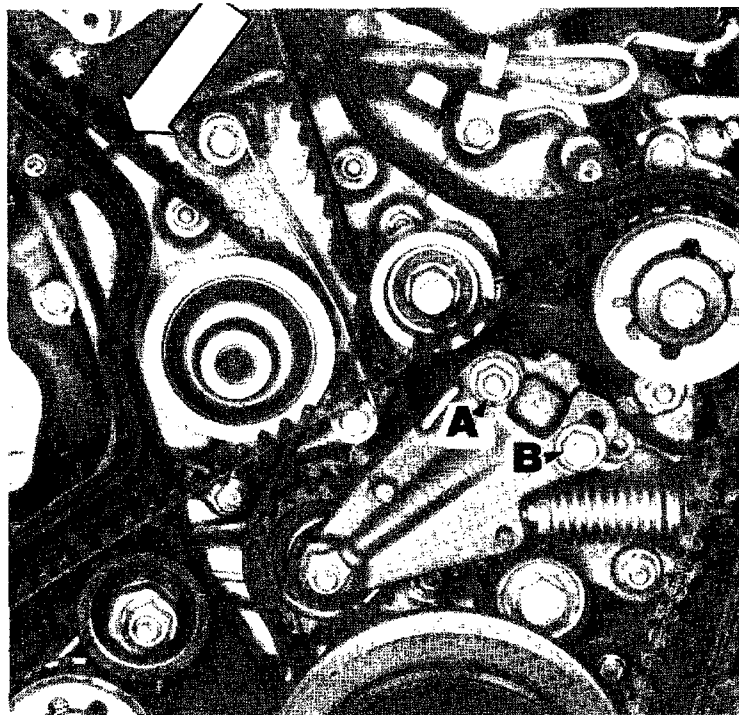
INSTALLATION

- Scrape gasket as required.
- Reinstall water pump.
- Reinstall rear timing cover, torque bolts to **8 Nm (6 ft lbs)**.



Installing Drive Belt

- Install drive belt according to following procedure:
 - Place belt on sprocket of crankshaft (1), tensioning roller (2), water pump pulley (3) and camshaft sprocket (4), preloading belt slightly with your hand each time so that belt can be pushed on to camshaft sprocket



- When adjusting the camshaft drive belt tension, it is important to ensure free movement of the belt idler pivot. After loosening nut A and bolt B, apply downward thumb pressure twice, pressing the cam belt against the belt cover in the area indicated (arrow).
- Afterwards, snug nut A and bolt B.
- Place timing belt around the crankshaft sprocket, tensioning roller, water pump pulley, and camshaft pulley.
- Turn engine one complete revolution and recheck belt tension.
- Ensure alignment of balance shaft marks. Install balance shaft belt.
- Using special tool 9201, tighten balance shaft belt to 2.7 +/- 0.3 refer to Balance Shaft, Adjustments. See: Engine/Cylinder Block Assembly/Balance Shaft/Adjustments
- Rotate engine one full revolution and recheck belt tension.
- Finish installation by reversing removal procedures.
- Replace drain plug. Remove bleeder plugs. Slowly add coolant until fluid level remains at the "max" mark in the expansion tank.