FAN CLUTCH INSTALLATION PROCEDURE

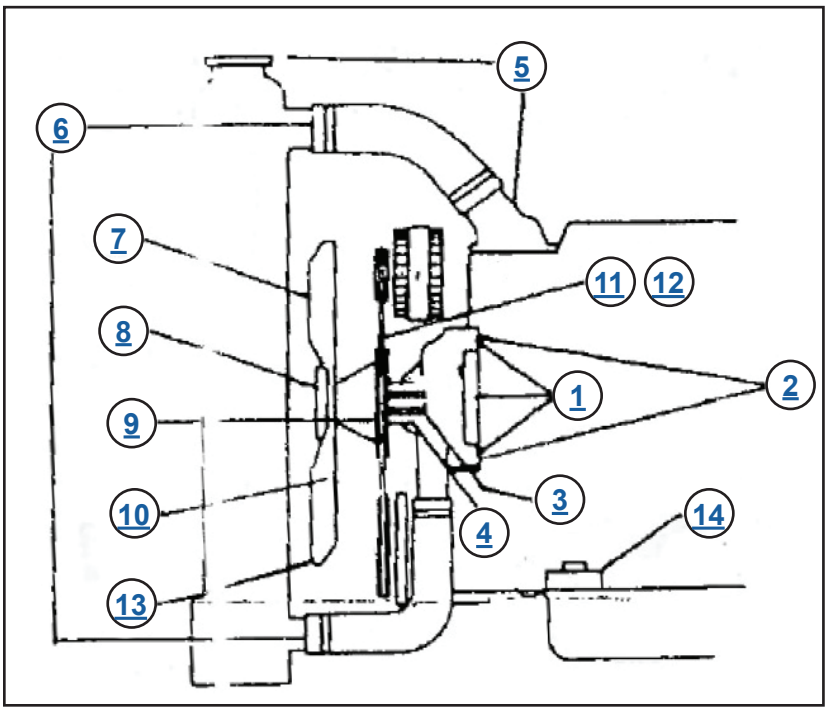
HOW TO INSTALL YOUR NEW WATER PUMP

FOLLOW THE SIMPLE STEP-BY-STEP INSTRUCTIONS BELOW.

Handle your new water pump with care. Never strike shaft. This can damage shaft or bearings. Always check the fan, pulleys, belts, and fan clutch when installing new water pump. CAUTION: FOR YOUR PROTECTION THE HOOD SHOULD BE CLOSED WHEN REVVING THE ENGINE.

INSTALLATION INSTRUCTIONS

FOLLOW THIS SEQUENCE:



1. Flush cooling system if it shows signs of corrosion. Clean pump impeller cavity and gasket surface. Tighten back plate mounting bolts where applicable
2. Position new gaskets after coating them on both sides with sealer.
3. Carefully install new pump. DO NOT STRIKE SHAFT. Tighten bolts using a crossing pattern.
4. Turn pump shaft by hand to check for free rotation.
5. Check thermostat, radiator cap and replace if they show signs of sticking and leaking.
6. Connect hoses, fill cooling system and check for leaks.
7. Check fan blade for cracks, bent blades, loose rivets, etc. NEVER STRAIGHTEN A BENT BLADE: when any defects are found, replace the entire fan.
8. CHECK FAN CLUTCH (IF USED) FOR LOSS OF OIL, LOOSENESS OR WOBBLE. A BAD OR MISALIGNED CLUTCH WILL DAMAGE A WATER PUMP.
9. Check that the fan pulley (or clutch, if used) sits square on the pump hub. Using lockwashers, torque bolts evenly to assure wobble-free operation.
10. Rotate fan by hand and check for fan wobble - 3/32" max. at outer edge (with no fan clutch); ¼" max. with fan clutch.
11. Check belts for cracks, frayed edges, missing sections. If in doubt, replace belt(s).
12. Adjust the fan belt(s) to proper tension, using commercial tension gauge, if available. Or lay straight edge between alternator and pump pulley and adjust belt deflection to ½" to ¾". (See vehicle manufacturer's specs for recommended tension.)
13. Check fan clearances at blade tip, between fan and shroud and fan and radiator.
14. CHECK MOTOR MOUNTS FOR WEAR AND SPLITTING. CHECK BOLT TIGHTNESS.
15. Start engine and run until normal operating temperature is reached. Check for leaks and for smooth operation. NEVER STAND IN LINE WITH OR NEAR FAN WHEN REVVING ENGINE. FOR YOUR OWN PROTECTION, THE HOOD SHOULD BE CLOSED WHEN REVVING ENGINE.

DIAGNOSIS OF COOLANT SYSTEM PROBLEMS

The cooling system consists of a series of components, the condition of which, are key to its operation. Additionally, specific cooling problems are often related to parts of the cooling system, other than the water pump. Always refer to your repair manual for most complete repair procedures and troubleshooting tips for your vehicle.

Overheating: low coolant level, fan belt defection or not properly adjusted, radiator core blocked, radiator grille dirty or restricted, thermostat defective, fan not functioning properly, radiator cap not maintaining proper pressure, incorrect ignition timing, improper grade of oil, inaccurate temperature gauge.

Poor Circulation: insufficient coolant, thermostat sticking, loose drive belt, restriction in cooling system, collapsed hose.

Corrosion: excessive impurities in water, insufficient antifreeze solution, infrequent flushing of system

Coolant Loss: damaged hoses, loose clamps at connections, check radiator, check drain or freeze plugs, check coolant temperature switch, loss from damage gaskets, cracked cylinder bore or cylinder head*, loose cylinder head bolts, damaged head gasket* (*Look for water on dipstick or inside valve covers – Oil mixed with coolant will have a milkshake appearance), overfilled system, coolant boil over, faulty radiator cap, cooling system pressurized by engine compression.