

WATER PUMP INSTALLATION

HOW TO INSTALL YOUR WATER PUMP

To avoid problems when installing your water pump, follow the simple, step-by-step instructions below. Handle your replacement water pump with care. If the unit is dropped, the internal ceramic seal may crack. **Never strike the shaft**, as this can damage the shaft or bearings.

Always check the fan, pulleys, belts and fan clutch.
**CAUTION: FOR YOUR PROTECTION
CLOSE HOOD WHEN REVVING ENGINE.**

INSTALLATION INSTRUCTIONS:

- 1) Flush cooling system if it shows signs of corrosion. Dirt particles in the coolant can cause seal failure. Clean the water pump impeller cavity and gasket surface. Also, check the radiator cap, thermostat, and the fan belt for wear or improper function. Replace if necessary.
- 2) Carefully install the replacement water pump. **NEVER STRIKE THE SHAFT.** Tighten all bolts in a staggered sequence.
- 3) Turn pump shaft by hand to check for free rotation. If the shaft does not turn freely then recheck your installation.
- 4) Check your fan belt tension. Belt should deflect 1/2 to 3/4 inches. If the belt is too tight the pump will be damaged.
- 5) Reconnect hoses and refill cooling system. Be sure there are no leaks.
- 6) Check the fan blade for bent blades, loose rivets or any other damage. **NEVER STRAIGHTEN A BENT BLADE:** replace the entire fan when defects are found.
- 7) Check the fan clutch (if installed) for loss of oil, looseness or wobble. If there is more than 1/4-inch of play at the blade edges the bearing is bad and the fan clutch needs replacement. A bad or misaligned clutch will damage a water pump.
- 8) Check fan clearances at blade tip, between fan and shroud, and between fan and radiator.

9) Check motor mounts for wear or splitting. Check bolt tightness.

10) Start the engine and run until normal operating temperature is reached. Check for leaks and unusual vibration.

IMPORTANT!

Leaks, loose fan belts or defective fan clutches cause cooling system problems more often than defective water pumps. Water pump failure can be caused by defective, crooked, or unbalanced fans; defective or unbalanced fan clutches; excessive (too high) fan belt tension; dirty cooling systems; insufficient clearance between the fan and the shroud or radiator; loose or broken motor mounts.

MANY FUTURE PROBLEMS CAN BE AVOIDED IF EVERYTHING IS CHECKED OUT WHEN THE WATER PUMP IS REPLACED.

REMINDER:

- HANDLE THE REPLACEMENT WATER PUMP WITH CARE
- ALWAYS USE A NEW GASKET
- ALL PUMPS ARE GREASED AT THE FACTORY...DO NOT ADD GREASE
- DRAIN AND FLUSH THE COOLING SYSTEM
- CHECK HOSES, CLAMPS, THERMOSTAT, AND RADIATOR CAP, REPLACE IF NEEDED
- CHECK THE FAN BELT. A GLAZED BELT WILL SLIP AT HIGH RPM. OVERTIGHTENING WILL CAUSE DAMAGE TO THE WATER PUMP (STRESS ON BEARING, BROKEN SHAFT, BROKEN HOUSING)
- THE FAN CLUTCH SHOULD BE FREE RUNNING AND IN PROPER BALANCE
- CHECK THE FAN FOR LOOSE RIVETS, BENT BLADES, CRACKED BLADES, WOBBLE AND SHROUD CLEARANCE
- ALWAYS USE A PROPER MIXTURE OF COOLANT

NEVER STAND IN LINE WITH OR NEAR FAN WHEN REVVING THE ENGINE, THE HOOD SHOULD BE CLOSED WHEN REVVING THE ENGINE.