

INSTALLING A NEW WATER PUMP

Before installing a new pump, clean out the cooling system. If the old pump still works, add a chemical cleaner and reverse flush out all the sediment, rust and scale.

Disconnect fan, fan clutch, hoses and belts. Remove the old water pump. Inspect the impeller cavity in the engine block. Clean it thoroughly, removing sediment build-up and scale.

NOTE: It is recommended to replace the timing belt and components while servicing a timing belt driven water pump. Long-term coolant or oil contamination can damage a timing belt.

Installation Reminders

- 1) If you have a manufacturer's repair manual, refer to it when replacing the water pump.
- 2) Always allow a hot engine to cool before working on the cooling system. Never remove the radiator cap from a hot engine. Never add cold coolant to a hot engine. Adding cold coolant to a hot engine will crack the seal.
- 3) Flush cooling system of all sediment, rust and scale before removing old pump.
- 4) After the old pump has been removed, clean the impeller cavity in engine block and clean the gasket surface.
- 5) Standard and Reverse Rotation water pumps are not interchangeable. It is easy to identify water pump types. Look at the pump and the belt that drives it. If the pump is driven by the front of the belt, it's a standard pump. If the water pump is driven by the back of the belt, it is a reverse rotation pump. Tighten steel back plate bolts on water pump where applicable. Coat new gaskets on both sides with gasket sealer and position on pump or engine block.
- 6) Do not force pump on by striking the pump shaft
- 7) Tighten mounting bolts to the manufacturer's torque specifications. Do not over-torque bolts. Doing so may cause overload fractures. Do not tighten bolts "around the clock." Instead, stagger the sequence.
- 8) Do not over-tighten the belts. Over-tightened belts may cause premature bearing failure. They can also break the bearing shaft or the pump housing.
- 9) If vehicle has an automatic belt tensioner, follow manufacturer's instructions for testing its effectiveness. A faulty tensioner can damage a water pump

- 10) Turn the pump shaft and make sure it rotates freely before reinstalling the pulleys, fans, clutches, belts and hoses.
- 11) Fill the radiator and coolant recovery reservoir with the correct mixture of new coolant and distilled water. Check for obvious leaks. Measure the amount of coolant added so it can be determined if air is trapped in the system. If so, the trapped air must be purged. Use a vacuum fill tool to eliminate trapped air in the cooling system.
- 12) Check the fan blades. If any of the blades are bent and/or cracked, or if rivets are loose, replace the fan. If equipped with a fan clutch, check fan clutch for loss of oil, looseness or wobble. Replace if damaged.
- 13) It is normal for a new pump weep from the weep hole during the run-in period.
- 14) ALWAYS use new coolant after installing a new water pump. Follow the manufacturer's coolant type specification, e.g. traditional or long-life. Do not mix different types of antifreeze. Do not use coolant additives.