The water pump is located between the engine and the radiator and circulates coolant through the engine block using a belt pulley system.

### Water Pump Function

1. **Structure & Mechanisms Of Water Pumps**
   - Flange (Hole): Pulley and fan clutch are mounted on a flange bolt or timing belt driven through the crankshaft at a higher RPM than engine RPMs.
   - Shaft Bearing: Flange mounted with Double Ball/Plain Type.
   - Body: Titanium with die-cast, gray cast, and cast iron.
   - Mechanical Seal: Dynamic rotation seal keeps coolant closed tightly. The approach is lubricated liquid turns into vapor.
   - Impeller: Made of pressed steel, cast iron, or iron. sunshine density pulled into the water packet.
   - Water Hole: Mechanism to discharge water.

2. **Water Pump Replacement Precautions**
   - DO NOT dry turn the water pump or you may damage the carbon.
   - DO NOT apply liquid sealant to o-ring or you may get a leak.
   - Inspect and adjust pulley and timing belts and listen for abnormal noises to indicate a faulty belt.

3. **Water Pump Install Procedure**
   1. Flush radiator and engine
   2. Remove water pump
   3. Clean remaining gaskets and mounting surface
   4. Apply liquid sealant to both sides of new gasket
   5. Install new water pump and tighten mounting bolts
   6. Install belt on water pump pulley, adjust tension
   7. Refill radiator with new coolant
   8. Bleed air completely
   9. Check for leaks
   10. You're done!

### Common Problems

**Leaks**
Clean engine mounting surfaces and gaskets, apply sealant to both sides of gasket, tighten mounting bolts, and look for fractured gaskets.

**Noise**
Proper install and regular maintenance should prevent any rumbling, whining, or squeaking.

**Overheating**
Freezing, corrosion, and prolonged use can cause overheating. Regularly maintain and never use recycled coolant.

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