

## WATER PUMP INSTALLATION REQUIREMENTS PART NUMBER: US6662

- ⚠ **NOTICE:** Refer to the vehicle service manual for the FULL water pump replacement procedure and cooling system filling instructions. This TSB is a USMW supplemental reference.
- ⚠ **COOLANT:** Flush the cooling system and refill with NEW coolant. Use GM 12346290 (DEX-COOL) or equivalent — verify correct coolant type in the vehicle service manual. Incorrect or contaminated coolant will cause premature water pump seal failure.
- ⚠ **THREADLOCKER:** Apply MEDIUM strength threadlocker — Loctite 242, Permatex Threadlocker Blue 24240, or GM equivalent.
- ⚠ **TORQUE:** 10 bolts @ 8 Nm (71 lb-IN) — INCH-pounds, not foot-pounds. Use a calibrated torque wrench. Do not overtighten. Threadlocker provides anti-loosening for the cleaned/reused bolts.
- ⚠ **BLEED:** Use the vehicle service manual to view the full installation procedure and how to properly bleed the cooling system when filling coolant. Use an airlift vacuum fill tool or the manual burp method per the service manual.

### BEFORE YOU START INSTALLATION

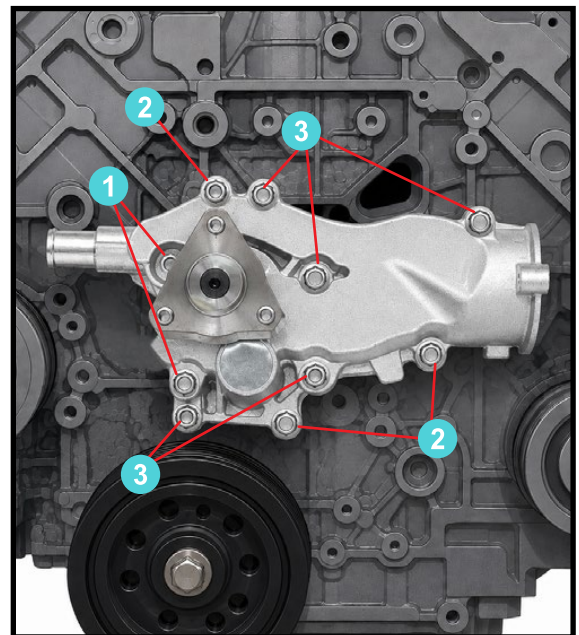
- Engine must be completely cold
  - Disconnect negative battery cable
  - Drain coolant
  - Remove accessory drive belt
  - Remove old water pump
  - Clean mounting surface thoroughly
- (The engine mounting surface must be clean, dry, smooth, and free of gasket material, RTV, oil, or debris before installation.)*

### STEP 1 - CLEAN & INSPECT ALL 10 BOLTS

1. Clean and inspect ALL 10 bolts. DO NOT discard them.
2. Inspect threads carefully. If threads are damaged or corroded — REPLACE the bolt. Do not reuse damaged fasteners.
3. If threads are good: clean bolt and block threads with compressed air. Threads must be clean, dry, and free of oil, coolant, and old threadlocker. Wear safety glasses.
4. Apply MEDIUM-strength threadlocker (Loctite 242 or equivalent) to ALL 10 cleaned bolts before reinstalling.

### STEP 2 - INSTALL THE WATER PUMP

5. Install the NEW water pump gasket (included). Do not reuse the old gasket. Do not use RTV sealer.
6. Position the new US6662 pump. Bolts per photo: (1) 2x 60mm special front cover • (2) 3x 52mm cone-end front cover • (3) 5x 25mm water pump.
7. Apply medium threadlocker to ALL 10 reused bolts: strip along HALF thread, from TIP. Apply just before installing.
8. Hand-start all 10 bolts (no power tools) to prevent cross-threading.
9. Torque all 10 bolts in CROSS (star) sequence to 8 Nm (71 lb-in) final.



### STEP 3 – FLUSH, FILL & BLEED THE COOLING SYSTEM

10. Reinstall accessory belt. Reconnect battery.
11. Flush the cooling system with clean water until it runs clear. Drain completely. Refill with NEW coolant per the vehicle service manual — do not reuse old coolant.
12. Tighten the radiator drain cock to 2 Nm (18 lb-in). Open the radiator vent screw — turn out 1 thread.
13. Slowly fill the surge tank with 50/50 DEX-COOL® and clean water until coolant exits the vent screw.
14. Close the vent screw — torque to 1.9 Nm (17 lb-in). Continue filling the surge tank to COLD FILL.
15. Install the pressure cap. Start engine, idle in PARK or NEUTRAL with parking brake set.
16. Raise engine RPM to 2500 for 30–40 seconds to purge air. Shut engine OFF and allow to cool.
17. Top off to COLD FILL. Repeat until level stays stable. Heater blows HOT = correct bleed. Inspect for leaks.

For the full procedure, torque values, and vehicle-specific bleed points, follow the OEM service manual.

**Warning:** Skipping the cooling system fill/bleed traps air pockets causing overheating, erratic temp gauge, no heater, and premature seal failure — warranty claims from improper fill are NOT covered as manufacturing defects.