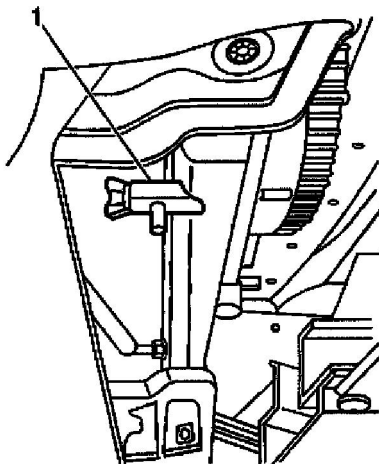


Water Pump: Service and Repair

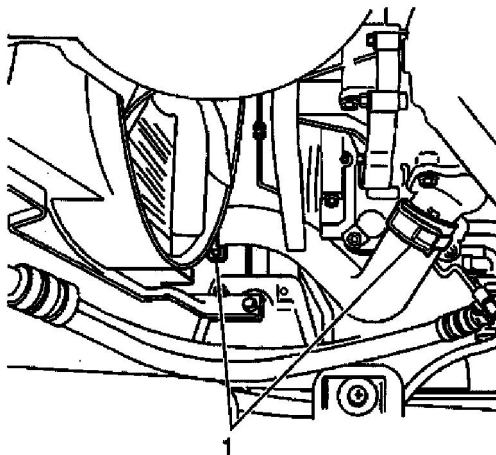
Removal Procedure

Caution: Refer to Battery Disconnect Caution in Service Precautions.

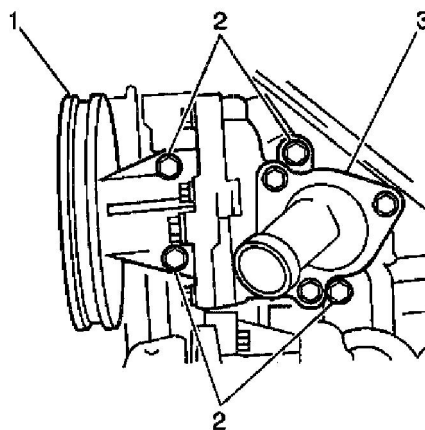
1. Remove the negative battery cable.



2. Drain the engine cooling system. Refer to Draining and Filling Cooling System.
3. Remove the accessory drive belt.



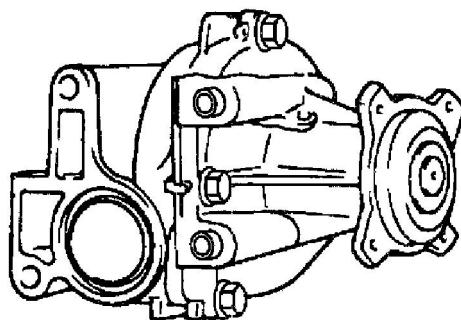
4. Remove the radiator outlet hose (1) from the thermostat housing.



5. Remove the 1 bolt and the heater outlet line from the rear of the water pump housing.
6. Remove 3 bolts and the A/C compressor from its mounting bracket. Position the A/C compressor aside. Do not discharge nor remove the A/C lines.

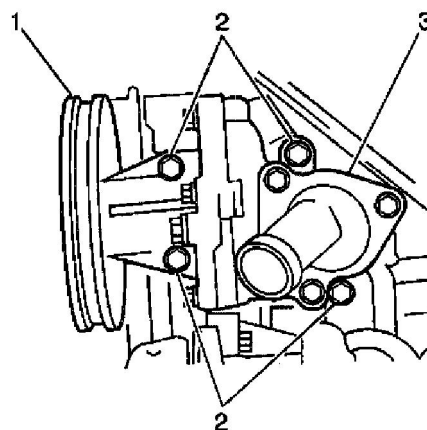
7. Remove the 4 bolts and the water pump pulley from the water pump.
8. Remove the 3 bolts and the thermostat housing from the water pump housing.
9. Remove the 4 bolts (2) and the water pump from the vehicle.
10. Remove the dowel pins from the engine block.

Installation Procedure

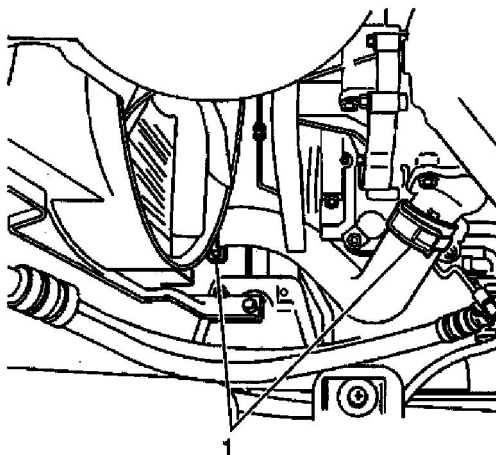


1. Install the dowel pins to the water pump.
2. Install a new O-ring to the water pump and to the heater outlet line.

Important: Use new bolts when installing the water pump. Failure to do so may result in leakage.



3. Install the water pump using 4 new bolts (2).
 - ^ Tighten the bolts to **27 Nm (20 ft. lbs.)**.
4. Install the A/C compressor to its mounting bracket.
 - ^ Tighten the 3 bolts to **23 Nm (17 ft. lbs.)**.
5. Install the 1 bolt and the heater outlet line to the rear of the water pump housing.
 - ^ Tighten the bolts to **15 Nm (11 ft. lbs.)**.
6. Install the 4 bolts and the water pump pulley to the water pump.
 - ^ Tighten the bolts to **23 Nm (17 ft. lbs.)**.
7. Install the 3 bolts and the thermostat housing to the water pump housing.
 - ^ Tighten the thermostat housing bolts to **27 Nm (20 ft. lbs.)**.



8. Install the radiator outlet hose to the thermostat housing.
9. Install the accessory drive belt.
10. Refill the engine cooling system. Refer to Draining and Filling Cooling System.
11. Connect the negative battery cable.
 - ^ Tighten the battery cable retainer to **15 Nm (11 ft. lbs.)**.
12. Road test the vehicle. Ensure that the coolant level is correct and that there are no leaks.