

Fig. 91: Suction Hose Ball Valve
Courtesy of CHRYSLER GROUP, LLC

NOTE: View typical

14. Open the suction hose's ball valve to begin refilling the cooling system.
15. When the vacuum gauge reads zero, the system is filled.

NOTE: On some remote pressurized tanks, it is recommended to stop filling when the proper level is reached.

16. Close the suction hose's ball valve and remove the suction hose from the adaptor cone/vacuum gauge assembly.
17. Remove the adaptor cone/vacuum gauge assembly from the radiator filler neck or reservoir tank.
18. With heater control unit in the HEAT position, operate engine with container cap in place.
19. After engine has reached normal operating temperature, shut engine off and allow it to cool. When engine is cooling down, coolant will be drawn into the radiator from the pressure container.
20. Add coolant to the recovery bottle/container as necessary. **Only add coolant to the container when the engine is cold. Coolant level in a warm engine will be higher due to thermal expansion.** Add necessary coolant to raise container level to the COLD MINIMUM mark after each cool down period.
21. Once the appropriate coolant level is achieved, attach the radiator cap or reservoir tank cap.

REMOVAL

3.6L

The water pump on 3.6L engines is bolted directly to the engine timing chain case cover.

1. Disconnect negative battery cable from battery.

WARNING: Constant tension hose clamps are used on most cooling system hoses. When removing or installing, use only tools designed for servicing this type of clamp. Always wear safety glasses when servicing constant tension clamps.

CAUTION: A number or letter is stamped into the tongue of constant tension clamps. If replacement is necessary, use only an original equipment clamp with matching number or letter.

2. Support the engine with a jack.

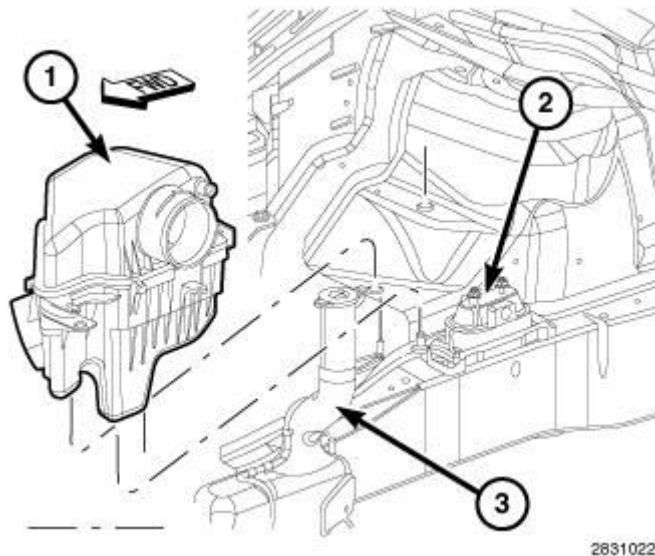


Fig. 92: Air Filter Housing Assembly & Right Side Engine Mount Assembly
Courtesy of CHRYSLER GROUP, LLC

3. Remove the air filter housing assembly (1) and intake tube to throttle body.
4. Remove the power steering reservoir and position aside.
5. Remove the right side engine mount assembly (2).
6. Remove the engine mounting block from the water pump.
7. Raise vehicle.

CAUTION: Do not pry on the water pump at the timing chain case/cover. The machined surfaces may be damaged resulting in leaks.

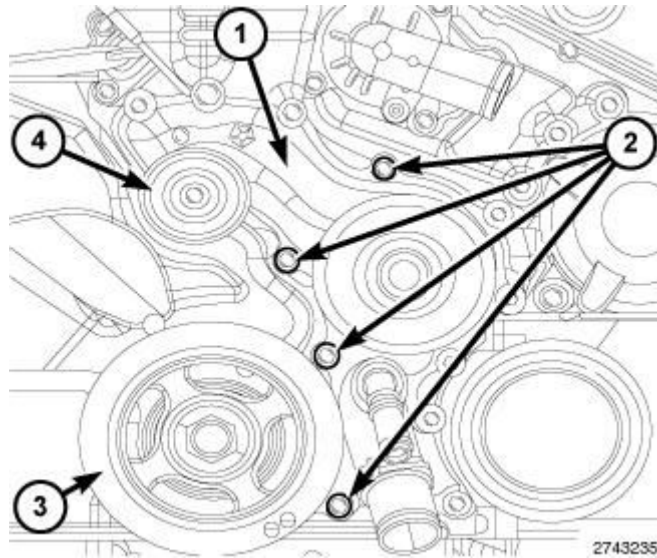
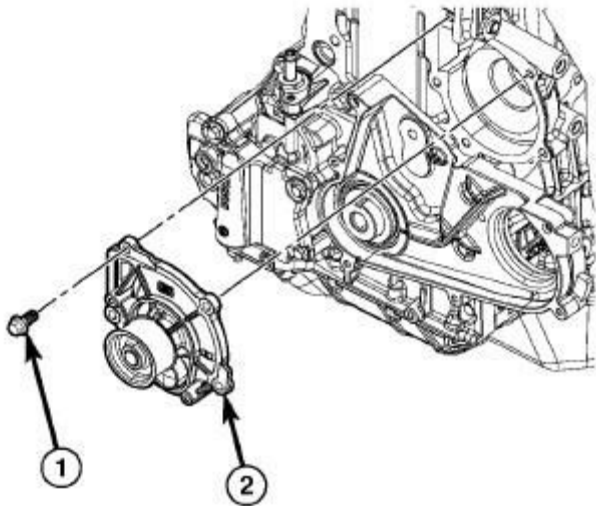


Fig. 93: Idler Pulley, Water Pump & Bolts
Courtesy of CHRYSLER GROUP, LLC

8. Remove the accessory drive belt. Refer to **BELT, SERPENTINE, REMOVAL**.
9. Remove accessory drive belt idler pulley (4).
10. If equipped, remove the lower engine cover.
11. Drain coolant into clean container for reuse. Refer to **STANDARD PROCEDURE**.
12. Remove right front wheel.
13. Remove the inner splash shield.
14. Remove the lower bypass hose and the lower radiator hose from the water pump (1) and position aside.
15. Remove the twelve water pump mounting bolts. Take notice to the four water pump bolts (2) that mount directly to the timing chain cover.
16. Remove water pump (1) and discard seal.

2.8L

1. Disconnect the negative battery cable.
2. Drain cooling system. Refer to **STANDARD PROCEDURE**.
3. Remove timing belt inner and outer covers. Refer to **COVER(S), ENGINE TIMING, REMOVAL**



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Fig. 94: Water Pump - 2.8L Diesel
Courtesy of CHRYSLER GROUP, LLC

4. Remove bolts (1) and the water pump (2).

CLEANING

CLEANING

Clean gasket mating surfaces as necessary.

INSPECTION

INSPECTION

Replace water pump body assembly if it has any of these defects:

- Cracks or damage on the body.
- Coolant leaks from the shaft seal, evident by wet coolant traces on the pump body.
- Loose or rough turning bearing.
- Impeller rubs either the pump body or the engine block.
- Impeller loose or damaged.
- Sprocket or sprocket flange loose or damaged.

INSTALLATION

3.6L

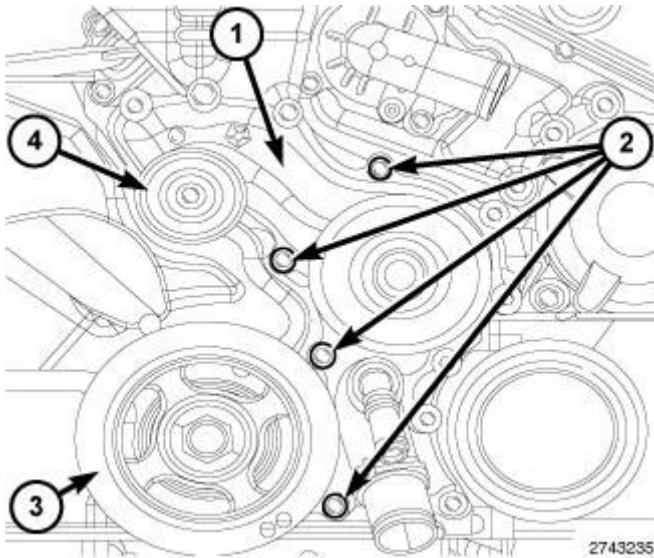
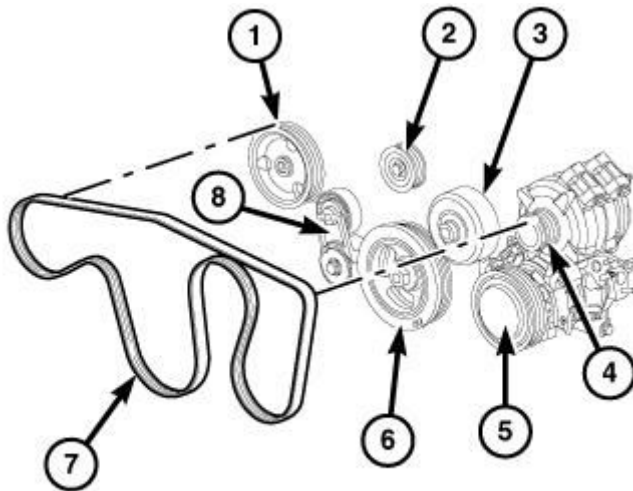


Fig. 95: Idler Pulley, Water Pump & Bolts
 Courtesy of CHRYSLER GROUP, LLC

The water pump on 3.6L engines is bolted directly to the engine timing chain case cover.

1. Clean mating surfaces.
2. Using a new seal, position water pump (1) and install mounting bolts. Note the shorter bolts (2) bolt directly to the timing cover. Tighten the M6 water pump mounting bolts to 12 N.m (106 in. lbs.).
3. Spin water pump to be sure that pump impeller does not rub against timing chain case/cover (1).



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Fig. 96: Belt Tensioner, Accessory Drive Belt & Belt Routing
 Courtesy of CHRYSLER GROUP, LLC

4. Install the lower radiator hose and the bypass hose.
5. Install the idler pulley (2). Tighten the mounting bolt to 25 N.m (18 ft. lbs.).

CAUTION: When installing the serpentine accessory drive belt, belt must be routed correctly. If not, engine may overheat due to water pump rotating in wrong direction.

6. Install accessory drive belt (7). Refer to **BELT, SERPENTINE, INSTALLATION**.
7. Install the right inner splash shield.
8. Install the right front wheel.
9. Lower vehicle.

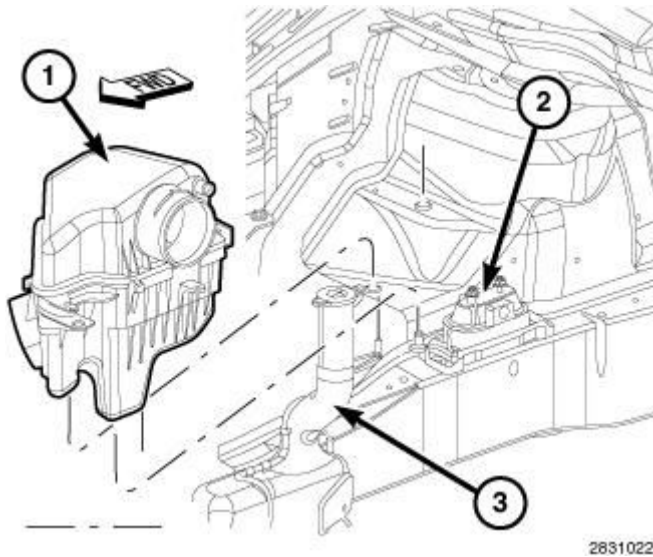


Fig. 97: Air Filter Housing Assembly & Right Side Engine Mount Assembly
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10. Position jack under engine.
11. Install the engine mount block. Tighten the M8 mounting bolt to 25 N.m (18 ft. lbs.). Tighten the M10 mounting bolt to 55 N.m (41 ft. lbs.).
12. Install the engine mount. Tighten the mounting bolt to the engine block to 61 N.m (45 ft. lbs.).
13. Install the air intake assembly (1).
14. Evacuate air and refill cooling system. Refer to **PUMP, WATER, STANDARD PROCEDURE**.
15. Connect negative battery cable.
16. Check the cooling system for leaks. Refer to **DIAGNOSIS AND TESTING**.