

Engine Cooling Systems

GENERAL MOTORS (Cont.)

WATER PUMP

Removal – Drain cooling system and loosen fan pulley bolts. Disconnect heater hose, lower radiator hose and by-pass hose at water pump. Loosen alternator and remove drive belt.

Remove fan bolts, fan and pulley. **NOTE** – *Thermostatic fan clutches must be supported so clutch disc remains in a vertical plane to prevent silicone fluid leakage.* Remove water pump attaching bolts and water pump assembly. **CAUTION** – *On 6 cylinder engines, pull pump straight out of block to avoid damaging impeller.*

Installation – Clean gasket surfaces, install new hoses (as required) and gaskets. Reverse removal procedure, tighten bolts, adjust drive belt tension and refill cooling system.

TIGHTENING SPECIFICATIONS

Application	Ft. Lbs.
Water Pump Attaching Bolts	
6 Cyl. Engines	15 INCH Lbs.
V8 Engines	30
V8 Diesel Engines	13

INTERNATIONAL HARVESTER

COOLING SYSTEM CAPACITY

Application	Quarts
4 Cyl. Engine	12
6 Cyl. Diesel Engine	① 6
V8 Engine	
304"	19
345"	20

① – Engine block only.

THERMOSTAT

Application	① Initial Open	① Full Open
4 Cylinder Engine	167-174.....	192
V8 Engines.....	167-174.....	192

① – Specifications are in °F.

WATER PUMP

NOTE – *Water pump removal information for International Harvester models was not available from manufacturer at time of publication.*

JEEP

COOLING SYSTEM CAPACITY

Application	① Quarts
All Models	
232" & 258" Engines.....	9.5
304" Engine.....	12
360" & 401" Engines.....	13

① – If equipped with heater, add one quart to capacity shown.

THERMOSTAT

Application	① Initial Open	① Full Open
6 Cylinder Engines.....	192-198.....	218
V8 Engines.....	192-198.....	218

① – Specifications are in °F.

WATER PUMP

ALL 6 CYLINDER MODELS

Removal – 1) Drain cooling system and disconnect all hoses at water pump. Loosen alternator adjustment bolt and remove drive belt. Separate fan shroud (if equipped) from radiator and position rearward on engine.

PRESSURE CAP

Application	PSI
All Models	15

JEEP (Cont.)

2) Remove fan and hub assembly from water pump. If equipped with air conditioning, remove idler pulley and mounting bracket from water pump. Remove power steering pump front mounting bracket if equipped. Remove water pump attaching bolts and water pump assembly.

Installation — Clean gasket surfaces, install new hoses (as required) and gaskets. Reverse removal procedure, tighten bolts, adjust drive belt tension and refill cooling system.

ALL V8 MODELS

Removal — 1) Drain cooling system and disconnect negative battery cable. Disconnect upper radiator hose at radiator. Loosen all drive belts. Separate fan shroud (if equipped) from radiator and position rearward on engine.

2) If equipped with a fluid drive fan, remove fan assembly (do not unbolt fan blades) and shroud at the same time. There is sufficient room to move fan assembly toward radiator and clear water pump. On all other models, remove fan and hub assembly.

CAUTION — *Studs in water pump may back out when nuts are removed, preventing fan assembly from clearing water pump. If this condition occurs, install a double nut on stud(s) and remove stud(s).*

3) If equipped with air conditioning, install a double nut on compressor bracket-to-water pump stud and remove stud.

NOTE — *Removing this stud eliminates removing mounting bracket.* Remove alternator and mount bracket assembly (position to one side with wires attached). If equipped with power steering, remove nuts attaching pump to rear half of mounting bracket. Remove bolts attaching front half of bracket to rear half.

4) Remove remaining upper bolt from inner air pump support brace, loosen lower bolt and drop brace away from power steering front bracket. Remove front half of power steering bracket from water pump mounting stud. Disconnect heater hose, by-pass hose and lower hose at water pump. Remove water pump attaching bolts and water pump assembly.

Installation — Clean all gasket surfaces, install new hoses (as required) and gaskets. Reverse removal procedure, tighten nuts and bolts, adjust drive belt tension and refill cooling system.

TIGHTENING SPECIFICATIONS

Application	Ft. Lbs.
Water Pump-to-Block	
232" & 258" Engines.....	9-18
All V8 Engines.....	18-33
Water Pump-to-Timing Cover	
304", 360" & 401" Engines	3.3-4.6
Fan Blade-to-Hub	
All Models	12-25