

Engine Cooling Systems

CHRYSLER CORP. (Cont.)

Removal (5.2L & 5.9L Engines) – 1) Drain cooling system and if equipped with air conditioning, remove radiator and shroud. Loosen alternator adjusting bolts and pivot bolt. Loosen power steering bolts. Remove all drive belts. On engines without air conditioning remove alternator bracket-to-water pump bolts. Swing alternator out of way and tighten pivot bolt.

2) On engines with air conditioning, remove idler pulley assembly, alternator and adjusting bracket. On all models, remove fan, spacer or fluid drive, pulley and bolts as an assembly.

CAUTION – To prevent silicone fluid from draining into fan drive bearing and ruining lubricant, do not place drive unit with shaft pointing downward.

3) Disconnect heater, by-pass and radiator hoses. Remove compressor clutch assembly, compressor-to-front mounting bracket bolts and water pump-to-compressor front mount

bracket bolts and bracket. 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 bolts, adjust drive belt tension and refill cooling system.

TIGHTENING SPECIFICATIONS

Application	Ft. Lbs.
Water Pump Attaching Bolts.....	30
Fan Attaching Bolts.....	15-18
Fluid Fan Drive Bolts.....	15-18

FORD MOTOR CO.

COOLING SYSTEM CAPACITIES

Application	Approximate Capacity (Qts.)			
	Standard System	Extra Cooling	Super Cooling Option	With Air Conditioning
4.2L (255") & 5.0L (302") F100/250 & Bronco				
Automatic Transmission	13	14	14	14
Manual Transmission	13	13	14	14
E100/350				
Automatic Transmission	.....	17.5	18.5	18.5
Manual Transmission	15	15	18.5	12.5
4.9L (300") F100/350 & Bronco				
Automatic Transmission	13	13	14	14
Manual Transmission	13	13	14	14
E100/350				
Automatic Transmission	15 ^③	.....	.....	20 ^{①②}
Manual Transmission	15 ^③	.....	.....	20 ^{①②}
5.8L (351") F100/350 & Bronco				
Automatic Transmission	15	15	16	16
Manual Transmission	15	15	16	16
E100/150				
Automatic Transmission	20 ^③	20 ^③	21	21
Manual Transmission	.....	.....	.....	15 ^{①②}
E250/350				
Man. & Auto. Transmission	20	21	28	21
6.6L (400") F350				
Automatic Transmission	16	16	16	16
Manual Transmission	15	15	16	16
E250/350				
Man. & Auto. Transmission	20	21	28	21
7.5L (460") E350				
Man. & Auto. Transmission	28 ^{①②}	28 ^{①②}	28 ^{①②}	28 ^{①②}

① – Add 1 quart for heater. ② – Add 1.8 quarts for auxiliary heater. ③ – Without air conditioning.

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PRESSURE CAP

Application	psi
All Models	13

THERMOSTAT

NOTE — Due to the different variations of emission control devices and the geographical areas for which the vehicles are manufactured, the thermostats will vary from one model to another. Either a 160°, 180° or a 190° thermostat may be used.

WATER PUMP

4.9L "E" & "F" MODELS

Removal — Drain cooling system. Loosen alternator adjusting arm bolt and remove drive belt. Remove air conditioning drive belt (if equipped). Remove fan, pulley and bolts from water pump hub. Disconnect heater hose and lower radiator 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 bolts, adjust drive belt tension and refill cooling system.

5.0L & 5.8L (W) F100/250 & BRONCO MODELS

Removal — Drain cooling system. Remove bolts securing fan shroud (if equipped) to radiator and position shroud over fan. Disconnect lower radiator hose, heater hose, and by-pass hose at water pump. Remove drive belts, fan, spacer, pulley and bolts from water pump hub. Remove fan shroud. Loosen alternator pivot bolt and adjusting arm-to-water pump bolt. 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 bolts, adjust drive belt tension and refill cooling system.

4.2L, 5.0L, & 5.8L (W) E100/350 MODELS

Removal — 1) Remove air cleaner and intake duct assembly including closed crankcase ventilation hose and oil breather cap. Drain cooling system. Disconnect radiator hoses at radiator and oil cooler lines (if equipped). Remove radiator attaching bolts and remove radiator.

2) Remove drive belts, fan, spacer, pulley and bolts from water pump hub. Disconnect heater hose and by-pass 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 bolts, adjust drive belt tension and refill cooling system.

5.8L (M) & 6.6L "E", "F", & BRONCO MODELS

Removal — 1) Drain cooling system and disconnect battery ground cable. Remove fan shroud bolts and position back over engine. Remove fan and spacer from pump. Remove air conditioning drive belt, lower idler pulley and compressor mounting bracket (if equipped).

2) Loosen alternator and remove drive belt. Loosen power steering pump and remove drive belt. Remove water pump pulley. Remove alternator and bracket without disconnecting wires and position out of way.

3) Remove radiator and heater hoses from water pump. Remove water pump attaching bolts and water pump.

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

7.5L "E" MODELS

Removal — 1) Drain cooling system and remove fan shroud bolts. Remove fan assembly from water pump and remove shroud. Loosen power steering pump bolts. If equipped with air conditioning, loosen compressor top bracket bolts and remove bracket. Remove air conditioning idler arm and bracket assembly. Remove compressor and power steering drive belts.

2) If equipped with air pump, remove pump pulley and belt. Disconnect by-pass hose and remove pump pivot bolt. Loosen adjustment arm and remove air pump. Loosen alternator pivot bolt and remove attaching bolts and spacer. Remove adjustment arm bolt and remove alternator and bracket as an assembly.

3) Remove power steering pump and lay aside. Disconnect radiator lower hose and heater hose from water pump. Loosen by-pass hose clamp at pump and remove attaching bolts and remove water pump.

Installation — Clean all 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.
All Models	
Water Pump Attaching Bolts	
4.2L, 4.9L, 5.0L, 5.8L, & 6.6L	12-18
7.5L	15-21
Fan-to-Hub Bolts	12-18