

**SECTION 303-03A Engine Cooling**

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## SPECIFICATIONS

### Material

Item	Specification	Fill Capacity
Motorcraft® Metal Surface Prep ZC-31-A	—	—
Motorcraft® Specialty Orange Engine Coolant VC-3-B (US); CVC-3-B (Canada); or equivalent	WSS-M97B44-D	3.7L engine: 11.7L (12.4 qt) 5.0L engine: 12.4L (13.1 qt)
Motorcraft® Premium Cooling System Flush VC-1	ESR-M14P7-A	—

### General Specifications

Item	Specification
<b>Pressure Tests</b>	
Complete cooling system maximum pressure	138 kPa (20 psi)
Pressure relief cap	110 kPa (16 psi)
Radiator (out of vehicle)	138 kPa (20 psi)
<b>Thermostat Opening Temperatures</b>	
Starts to open (3.7L)	86.7°C (188°F)
Fully open (3.7L)	95.6°C (204°F)
Starts to open (5.0L)	82.2°C (180°F)
Fully open (5.0L)	96.1°C (205°F)
Starts to open (5.4L)	86.7-90.6°C (188-195°F)
Fully open (5.4L)	100°C (212°F)

### Torque Specifications

Description	Nm	lb-ft	lb-in
A/C condenser bolts	10	—	89
A/C condenser nuts	8	—	71
Block heater	40	30	—
Coolant inlet connector bolts — 3.7L and 5.0L	10	—	89
Coolant outlet connector bolts — 5.4L	10	—	89
Coolant pump bolts — 3.7L <sup>a</sup>	—	—	—
Coolant pump bolt — 5.0L <sup>a</sup>	—	—	—
Coolant pump bolts — 5.4L	25	18	—
Coolant pump pulley bolts — 3.7L	24	18	—
Coolant pump pulley bolts — 5.0L <sup>a</sup>	—	—	—
Coolant pump pulley bolts — 5.4L	25	18	—
Cooling fan motor and shroud bolt and stud bolt	8	—	71
Degas bottle bolts	8	—	71
Heater outlet tube bolt — 5.0L	10	—	89
Lower splash shield bolts	5	—	44
Radiator support bracket bolts	10	—	89
Supercharger (SC) degas bottle bolt — 5.4L	8	—	71
Thermostat housing bolts — 3.7L <sup>a</sup>	—	—	—
Thermostat housing bolts — 5.0L	10	—	89
Thermostat housing nuts — 5.4L	25	18	—
Transmission cooler bolts (if equipped)	8	—	71

**SPECIFICATIONS (Continued)****Torque Specifications (Continued)**

Description	Nm	lb-ft	lb-in
Transmission cooler tubes bracket bolt (if equipped)	7	—	62

a Refer to procedure