

# Engine Cooling Systems

## GENERAL MOTORS

### CHEVROLET & GMC COOLING SYSTEM CAPACITY

| Application                                | Quarts | Application          | Quarts |
|--------------------------------------------|--------|----------------------|--------|
| 250" Engine                                |        | "P" Models           |        |
| "G" Models                                 |        | Man. Trans. ....     | ① 16.6 |
| Auto. Trans. & H.D. Radiator .....         | 15.2   | Auto. Trans. ....    | 16.9   |
| All Others .....                           | 15.0   | "K" Models           |        |
| "C" & "K" Models                           |        | Man. Trans. ....     | ② 17.6 |
| Auto. Trans. & Air Cond. ....              | 15.6   | Auto. Trans. ....    | ② 17.4 |
| All Others .....                           | 15.0   | G10-15 Models        |        |
| 292" Engine                                |        | Man. Trans. ....     | ② 17.9 |
| "P" Models .....                           | 13.6   | Auto. Trans. ....    | ② 17.7 |
| "C", "K" & "G" Models .....                | ① 14.8 | G20-35 Models        |        |
| 305"                                       |        | Man. Trans. ....     | ② 17.9 |
| C10-15                                     |        | Auto. Trans. ....    | 18.2   |
| Man. Trans. ....                           | 18.4   | 400" Engine          |        |
| Man. Trans. With H/D Rad. or A/C .....     | 17.6   | K10-15 Models .....  | ③ 19.7 |
| Auto. Trans. ....                          | 17.4   | K20-25 Models .....  | 20.4   |
| Auto. Trans. With H/D Rad. or A/C .....    | 18.0   | "G" Models           |        |
| C20-25                                     |        | Man. Trans. ....     | 18.2   |
| Man. Trans. ....                           | 17.6   | Auto. Trans. ....    | 19.9   |
| Auto. Trans. ....                          | 18.0   | 403"                 |        |
| K10-15 .....                               | 17.4   | FWD Motor Home ..... | 23.5   |
| K20-25                                     |        | 454" Engine          |        |
| Man. Trans. ....                           | 17.6   | "P" Models .....     | 23.6   |
| Auto. Trans. With A/C .....                | 17.8   | C10-15 Models .....  | ⑤ 24.0 |
| Auto. Trans. With A/C & H/D Radiator ..... | 18.0   | C20-25 Models        |        |
| G10-15                                     |        | Man. Trans. ....     | 24.4   |
| Man. Trans. ....                           | ④ 17.7 | Auto. Trans. ....    | 24.7   |
| Auto. Trans. ....                          | ④ 17.6 | 455"                 |        |
| 350" Engine                                |        | FWD Motor Home ..... | 23.5   |
| "C" Models                                 |        |                      |        |
| Man. Trans. ....                           | ② 17.6 |                      |        |
| Auto. Trans. ....                          | ③ 17.4 |                      |        |

- ① - Add .6 qt. with air conditioning except on "G" models.
- ② - Add .5 qt. with air conditioning and heavy duty radiator.
- ③ - Add .4 qt. with air conditioning and heavy duty radiator.
- ④ - Add .6 qt. with heavy duty radiator.

- ⑤ - Add .7 with air conditioning and heavy duty radiator.
- ⑥ - Add .5 qt with heavy duty radiator.
- ⑦ - Capacity given is for K10-15. K20-25 is 17.8 and if equipped with heavy duty radiator, capacity is 18.0 qt.

### CHEVROLET & GMC PRESSURE CAP

| Application            | PSI |
|------------------------|-----|
| Motor Home .....       | 9   |
| All Other Models ..... | 15  |

### CHEVROLET & GMC THERMOSTAT

| Application                                                                                                    | ① Rating °F |
|----------------------------------------------------------------------------------------------------------------|-------------|
| All .....                                                                                                      | 195         |
| ① - Thermostat should be full open at 25°F above stamped rating and fully closed at 10°F below stamped rating. |             |

### WATER PUMP

#### ALL MODELS EXCEPT MOTOR HOME

**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.*

## GENERAL MOTORS (Cont.)

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

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### GMC MOTOR HOME

**Removal** — Drain cooling system. Remove heater hose and disconnect by-pass hose from water pump. Remove all drive belts. Raise on a twin post hoist. **CAUTION** — *Size and weight of vehicle necessitates use of a twin post hoist ONLY.* Remove fan clutch-to-water pump hub and position assembly forward in the shroud taking care not to damage radiator. Remove venturi ring and water pump pulley. Disconnect power steering pump and left hand upper venturi ring bracket. Remove water pump attaching bolts, and water pump assembly.

### TIGHTENING SPECIFICATIONS

| Application                        | Ft. Lbs.     |
|------------------------------------|--------------|
| Water Pump Attaching Bolts         |              |
| 6 Cyl. Engines .....               | 15 ICNH Lbs. |
| V8 Engines Except Motor Home ..... | 30           |
| V8 Engines Motor Home .....        | 25-30        |

## INTERNATIONAL HARVESTER

### COOLING SYSTEM CAPACITY

| Application                | ① Quarts |
|----------------------------|----------|
| 4 Cyl. Engine .....        | ② 12     |
| 6 Cyl. Diesel Engine ..... | ③ 6.34   |
| V8 Engines                 |          |
| 304" .....                 | 19       |
| 345" .....                 | 20       |

- ① — With increased capacity radiator, fill to 1 inch below top of radiator upper tank. All models with cooling system reservoir require 2 extra qts.
- ② — Add 1.5 qts. on Scout models equipped with heater.
- ③ — Engine block only, radiator and engine capacity was not available at time of publication.

### 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.*