



**Division 02 Apparatus and Equipment**

**Chapter 14 – Coolant Concentration and Additive for Vehicle Engines**

February 2009

**POLICY**

This General Order shall set forth a policy and procedure established to govern the type and concentration of coolant and additives for Fire/EMS Department vehicles.

**DEFINITIONS**

N/A

**PROCEDURES**

**1. General Information**

The failure to maintain the cooling system of Fire/EMS Department vehicles of the recommended concentration of anti-freeze/water and supplemental coolant additives will result in damage to the cooling system components leading to engine overheat and failure. In order to avoid this occurrence, the guidelines below must be followed.

**2. Type and Concentration**

**Heavy Apparatus and Ambulances**

- The only anti-freeze which is to be utilized is a low silicate, ethylene glycol base which meets TMC RP-329 “Type A” requirements, pre-charged with a supplemental coolant additive (Stores Stock No. 6850-006-1149).
- Cooling systems will be filled with a 50/50 water/anti-freeze mixture.

**Sedans and Light Duty Trucks**

The cooling system will use a high silicate, ethylene glycol base coolant meeting ASTM D 3306 specifications.

**3. Fall Lubrication Cycle**

During the Fall 2008 lubrication cycle, all cooling systems will be drained, flushed and refilled with a new solution of 50/50 anti-freeze (with supplemental coolant additive)/water mixture. The coolant will be changed every four (4) years.

The lubrication cycles have been modified so that all units will be tested for freeze protection and supplemental coolant additive levels. In addition, the Department will utilize a coolant analysis program to ensure proper coolant preventative maintenance measures. The system will be flushed and new coolant and additives added as determined by the analysis program.

**4. Coolant System Maintenance**

- Coolant systems are to be checked daily for coolant level and leaks.
- Coolant systems are to be checked monthly for freeze protection (-20F or below).
- In the event that coolant must be added to the system, only a pre-mixed solution of 50/50 anti-freeze/water is to be added. Undiluted coolant



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concentrate or plain water shall not be utilized to top off coolant systems.

- It is imperative that the Station Technician or Station Officer notify Apparatus Maintenance of any coolant loss so that the systems can be tested for recommended levels of coolant concentration and additives.

### REFERENCES

N/A

### FORMS/ATTACHMENTS

N/A