

Fill-For-Life Converting From Organic Acid

Category: Coolants
Bulletin No. 01.008
Date: 01/12/01
Replaces: 99.007



Introduction:

Many customers have expressed a desire to change their coolant from organic acid to a Fill-For-Life program. Cummins Engine Company® has recently expressed deep reservations regarding NOAT and mandates the addition of a silicate-containing SCA to all vehicles powered with Cummins engines and using NOAT coolant. Other vehicles may also be converted as detailed below.

Penray's Primary Recommendation:

1. Drain and flush the cooling system.

Drain the engine coolant and recycle it properly through redistillation, ion exchange or reverse osmosis. If recycling service is not available in your area, dispose of the used coolant properly. Flush the system thoroughly with clean water.

2. Use a proper initial coolant.

Fill-For-Life requires "fully-formulated" phosphate-free coolant that meets the ASTM D-6210 phosphate-free specification, (See Tech Bulletin 01.001 for the list of approved antifreeze brands). Use 50% to 60% antifreeze mixed with purified (i.e. deionized) water. *(Note: If drinking water is to be used, it must meet the ASTM water quality requirements).*

3. Install a new Need-Release® Filter.

Label and install the Need-Release Filter. Follow the maintenance practices detailed in Technical Bulletin 01.007 "Fill-For-Life".

Penray's Alternate (Acceptable) Recommendation for Newer Vehicles:

1. Check the Freeze Point by Refractometer. If the freeze point is acceptable, proceed to Step b.

a. Adjust the freeze protection. Each fleet has its own specification for freeze protection. The recommended range of the ratio of antifreeze to water is 30% to 60% antifreeze. A 50% antifreeze concentration produces a freeze point of -37 degrees C (-34 degrees F). Adding antifreeze towards the upper limit of 60% will depress the freeze point, adding water toward the lower antifreeze concentration limit will raise the freeze point and improve heat transfer.

b. Add 3% Pencool 3000 SCA. Add 1 pint liquid Pencool 3000 per 4 gallons cooling system capacity. 3 or 4 pints are required for most highway-service class 7 and 8 trucks. (1 gallon to 33 gallons in large systems).

2. Install a new Need-Release Filter.

a. Label and install the Need-Release. Follow the maintenance practices detailed in Technical Bulletin 99.010, "Fill-For-Life".