Choosing the Correct Engine Coolant

Each manufacturer provides coolant specifications based on corrosion protection requirements, service life, and chemical compatibility. These requirements are specified in the operator's manual and maintenance manual. With the inception of aluminum radiators and now more aluminum engines, silicates and organic acids have been introduced into the coolant mixtures. It is recommended to avoid mixing coolant types and brands in your system, or the life of the coolant will diminish quickly. Do not rely on coolant dye colors alone to indicate compatible chemistry, as different brands and national and corporate standards exist. Colors may also change if systems are topped off with different types of coolant.

Traditional North American "Green Antifreeze"

Spectrum 1 Gallon – Part No. A000000776
Spectrum 55 Gallon – Part No. A000000777
This original formula was used until the introduction of extended-life coolants. The fast-acting silicate and phosphate corrosion inhibitors provide quick protection for bare iron and aluminum surfaces, and are proven to provide trouble-free service in virtually any application. Phosphate can reduce the corrosion of aluminum engine components caused by cavitation and provide protection from corrosion of ferrous metals. Acting as a buffer to keep the antifreeze mixture alkaline, phosphate helps prevent acid build-up that will damage or destroy metal engine parts.

OAT-Based Extended-Life Coolants (Organic Acid Technology)

Dexcool 1 Gallon – Part No. A000014470
These coolants use mostly carbon-based molecules and do not contain silicates or phosphates for metal protection. They are not as fast acting as the traditional green anti freeze, but they do have a longer life. OAT-based coolants are usually dyed a
different color to distinguish them from the traditional North American green antifreeze. These dyes are not standard, and the color may vary between manufacturers.

Hybrid OAT Coolants (G-05)

This formulation also uses organic acids. This is a low silicate, no phosphate coolant, which provides quick-acting protection for aluminum surfaces. The silicate also helps repair surface erosion.

Preventative Maintenance

Always refer to the OEM service manual to find the proper coolant. Each manufacturer provides coolant specifications based on corrosion protection requirements, service life, and chemical compatibility. Mixing coolant is not recommended when refilling a cooling system; the system should be flushed to remove the old coolant. This is necessary to remove contaminants and maximize the service life of the new coolant. If the complete system is not flushed and only the radiator is drained, up to one-third of the old coolant will remain in the engine block. Universal coolants will become diluted and will not attain the extended protection when used in systems where traditional green coolant is used; which in most cases is only one year. Coolant systems are designed to operate full. When a system is operated with low coolant, it creates a corrosive atmosphere. The steam created is more corrosive than the fluid. When filling the system, top off the coolant with the same type already used in the system. If the system is consistently low, verify that the overflow system is working properly, including the radiator cap and coolant flow line. Always allow the engine to cool before removing the radiator cap. Never reuse old antifreeze and always dispose of it properly.