

Colorful RV coolants create confusion

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Keeping your RV or RV towing vehicle road-ready means keeping an eye on the cooling system. With changes in technology and marketing, knowing what liquid to put in your cooling system can be a challenge for a professional technician and a downright nightmare for RV owners. Green, pink, orange, red, even blue—the colors that coolant manufacturers put in their coolant are supposed to help us discern what goes where. All those colors make a blend of confusion when it's time to add or refresh your cooling system. We'll help you sort out your coolant conundrums.

“When I was a lad,” the saying goes, “antifreeze” as it was generically called, was all green. Pour the right amount in the radiator, add water, and hey prestone! Your rig was ready to roll. The underlying principles are still the same so let's review them.

In our RV world, pretty much all engines are water cooled, to remove waste heat. Plain water tends to be corrosive eating metal parts and it freezes. Freezing water expands, and expanding water in the closed spaces of the engine breaks parts. On the other side of the scale, water heated up to an extreme turns to steam, and steam filled areas of an engine overheat, leading to “catastrophic failure.” Antifreeze, or “coolant” additive reduce corrosion and the freeze point of the cooling system liquid, and at the same time raise its boiling point. They also contain additives to lubricate seals and water pumps, and help transfer engine heat to the coolant.

The “green stuff” so common not long ago is primarily ethylene glycol. Nearly every vehicle used it; the only options were to buy the stuff in a concentrate or the “pour and go” pre-diluted mixture. Things began to change as manufacturers introduced a new wave of coolant: Extended life coolant. Some call this “orange” coolant, but different manufacturers may use a different colored dye. This coolant is also known as OAT coolant, for “organic acid technology” the basis of its construct.

OAT is said to be “better” for vehicles, as ethylene glycol based coolant needs to be changed out every two years, the former could go up to five years. Now enter a third coolant, a hybrid OAT coolant called HOAT. So you've got HOAT, OAT, and the good

old green stuff, and none of them like to mix. Mixing green with HOAT or OAT can precipitate a cooling system disaster.

Then it had to happen: Some wise guys in the back rooms of coolant manufacturing circles had the brilliant idea of a sort of a Coolant United Nations. Cooling system a little down? Don't know what kind of coolant you're using? Buy the new Universal Coolant and you can top off any of them safely! The jury isn't back in yet on just how safe or how effective universal coolant is.

So what coolant to use? The lazy among us like reduced maintenance intervals. If the price isn't outrageously different, who would climb under the rig every two years to change out coolant when they could go five years? This time, there's no question about who's in the details: The devil is! Owners of some older vehicles say they've found the Devil in their cooling system. Having gone from the old green coolants to the extended life coolants of various varieties, they say various gaskets, seals, and engine components have suffered problems (read that "failures") with the use of the newer technology coolants. A class action lawsuit paid litigants who said one of the newer OAT coolants ate up engine gaskets, leaving them with kaput engines.

What's to do? Probably the safest thing is to simply use the type of coolant specifically recommended by the manufacturer, at least while under warranty. Outside the warranty period if you want to take your chances, then you could experiment with other types of coolant. If you do, be sure to completely clear your cooling system of all traces of the earlier coolant. This may mean multiple flushes of the system, but don't run any risks of mixing types of coolant in your system.

For our part, we're sticking with the old "green stuff," in our mid 90's diesel engine tow vehicle. But diesel owners using the green should keep in mind the need to not only checking the coolant for its ability to protect against over heating and freezing, there's yet another factor for you to be concerned about: Cavitation. We'll talk about that in our next post.