MACS 2001: GM and Texaco "Bare All" about DEX-COOL®

As in the past, the MACS 2001 Convention and Trade Show in Orlando provided some very interesting and helpful air conditioning information. However, the sleeper presentation at this show was not about refrigerant, but—of all things—engine coolant! (Sleeper does not refer to making you sleepy; it was anything but boring.)

Marketing departments of major consumer goods manufacturers are known for their attempt to conceal even a shred of negative publicity about their products. You can't blame them; you do the same in your business. That's why it was refreshing to witness a candid GM/Texaco presentation about DEX-COOL coolant and its related field service problems. I give the big guys credit for even bringing up the subject because, well, let's face it, there are not a lot of kind words being spoken about this coolant at automotive service shops today. (Especially at radiator shops.)

Left: 14-Minute GM Training Video is now available to help technicians service known cooling system contamination problems in specific GM vehicles.

GM's Jay Dankovich and Equilon Enterprises' (Texaco) Stede Granger directed a 2-year study of thousands of DEX-COOL cooled vehicles. Armed with the results, they really didn't have anything bad to say about the coolant. In fact, they strongly defended the product's reputation. What they revealed to the audience is that specific models of GM vehicles have specific cooling system contamination problems. And essentially, that DEX-COOL is not the culprit!
Their presentation started with a 14-minute video that is now being circulated to technicians at GM dealers nationwide. In the video, GM's trainers succinctly described the problems that have been found and the corresponding corrective actions to be taken by technicians.

Suggestion. This video is a "must see" for all technicians considering themselves antifreeze/coolant experts. Without this information, your cooling system service knowledge of late model GM vehicles is severely limited. Seriously!
Fortunately, you can buy the video for only $10 (plus S&H). Call MSX International of Auburn Hills, Michigan at **800-393-4831**. Ask for the DEX-COOL Video: "Understanding Radiator Cap and Cooling System Contamination." Part number: **RADCAPK**. Immediately following this article is a report on this training video by John Brunner, recently retired GM field service representative.

What was said at the presentation? Besides the video, Jay and Stede included their personal observations about the study. At the end, they fielded several questions from the audience. Here's a recap of their entire presentation.

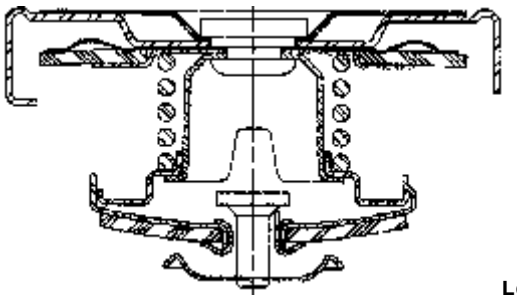
1. Keep the cooling system filled. In fact, fill the reservoir bottle to "Hot" level when the system is cold. Problems arise when a system's coolant level is not maintained. (Fleet vehicles receiving regular maintenance, and with reservoirs kept slightly above normal, do not show signs of contamination. This even applies to the specific "problem" vehicles.)

2. The coolant problems found in this survey were caused by system contamination, and not due to the breakdown of DEX-COOL.

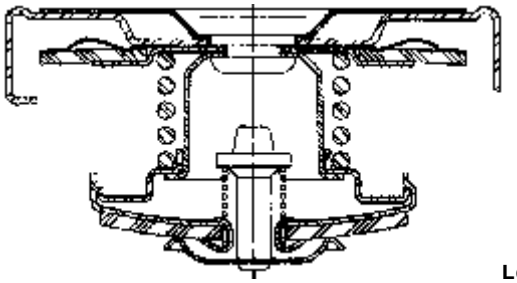
3. Check and keep the pressure cap clean and functioning. A contaminated and/or malfunctioning cap causes low coolant levels, which in turn causes overheating and a greater loss of coolant: the notorious vicious cycle. No matter what the vehicle, if the cooling system acts suspiciously, test the pressure cap.

4. On the ST vehicle models mentioned in the GM DEX-COOL video, you "must" replace all suspect radiator caps, especially those with a Drop-Center design, with a Stant Model 10230 or 11230 (Spring-Center type). (Just do it.)

5. Make sure that the coolant is at a 50-50 mix. Often, the flush water was not being removed from the engine block. Consequently, when a 50-50 mix is added to the system the resultant mixture could approach 30-70. Like any fluid that has been diluted beyond its recommended levels, the lowered level of inhibitors will not be able to protect the coolant system effectively. Low levels of inhibitors can cause pitting on aluminum surfaces and general corrosion of cooling system metals.



Left: Drop-center, "vented" radiator pressure cap. GM found this cap (like the Stant 10231) to be less helpful than a Spring-center cap (shown below) in controlling the formation of contaminants in the cooling system. If contamination forms, the debris fouls the valve and restricts its ability to seal. In turn, the coolant boils at a lower temperature. Coolant loss is accelerated and so is the accumulation of contaminants.



Left: Spring-center, sealed radiator pressure cap (like the Stant 10230). This is the preferred cap for GM applications that are more prone to accumulating cooling system contaminants.

6. A safe method of achieving a true 50-50 mix is to first determine the actual capacity of the system (use the owner's manual). Then add 50% of "that" amount of undiluted DEX-COOL (or any coolant), and top it off with water.

7. Mixing a "green" coolant with DEX-COOL reduces the batch's change interval to 2 years or 30,000 miles, but will otherwise cause no damage to the engine. In order to change back to DEX-COOL however, the cooling system must first be thoroughly drained and flushed.

8. Bacteria cannot live in a hot, Ethylene Glycol environment and is therefore not a threat to DEX-COOL.

9. While there have been intake gasket failures on CK Series, V8 powered vehicles for various reasons, DEX-COOL has never been found as a cause.

10. Use a refractometer to check the condition of DEX-COOL. Its inhibitor package is strong enough that if the batch still provides proper freeze protection, it is probably still providing proper corrosion protection as well.

11. DEX-COOL can handle the minerals in hard water better than silicated conventional chemistry coolants. Drinkable water is suitable for top off.

12. In ST Blazer applications where the radiator cap is mounted at an angle to the ground, the vehicle is more susceptible to radiator cap contamination and its related problems. The Stant 10230 is a wise choice for these vehicles. **$$$**

Below are findings from local Northern California cooling system service shops that supplement the article above.

Left: A check with local cooling system shops revealed this cap. It's from a mid-90's Blazer with about 50K miles.
Below is the neck.

Left: This cap is from a later model Blazer with under 15K miles (notice the onset of corrosion). The cause was not verified, but appears to be iron oxide. If so, the system will need to be chemically flushed.

 **Left: Notice the buildup in the coolant reservoir. This too appears to be the iron oxide problem. The system can be cleaned, and if not plugged excessively, the radiator can be salvaged.**

As appeared in the Jan/Feb 2001 edition of
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