NewsStand - Light & Sound

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I remember once when I was a teen in New Jersey watching a neighbor pounding a metal stake into the ground with hammer at dusk. The interesting part was that I was several houses away and that when the hammer hit, I would see the sparks, but the sound came a couple seconds after. This delay made an impression on me.

One late summer evening here in Duluth I re-experienced the same phenomenon during the Garfield Avenue time trials, a drag racing event on a closed off public street. My family and I were up on Skyline Drive, overlooking the bay. Down below on Garfield cars were revving it up and giving it a full go, with gusto. The noise up close must have been deafening, but from where we stood there was no sound at all when the cars leapt from the starting line. Three or four seconds would pass and then we'd hear the muted roar.

The speed of light is approximately 186,282 miles per second, the speed of sound approximately 1,125 feet per second or 768 mph.

Here's one way of comparing. A superloud ka-boom would take about 16 hours before it could be heard on the other side of the world, whereas light would be there (if it could bend) in a fraction of a second. In short, light and sound travel at dramatically different speeds.

It made me think about how there are things in life like that time delay between light and sound. For example, we see something happen now but the impact of what we saw takes time to reach us.

The bombing of Pearl Harbor was something on this order. The surprise attack hit the news wires almost immediately. The drums of war soon followed. But the mobilization of America's young men and the impact of those war years on our families took months to unfold.

The new API SN and ILSAC GF-5 requirements are something along this order of things in the oil industry. The American Petroleum Institute (API) and International Lubricants Standardization and Approval Committee (ILSAC) each debate and set minimum standards for lubricants in today's high tech age. Last year when the Japan Automobile Manufacturers Association and representatives from Chrysler, Ford and General Motors announced that they had jointly developed and approved a new minimum performance standard for engine oils, it set things in motion like ripples on a pond.

Essentially, the new requirements are set to go into effect for all new 2011 model year passenger car vehicles manufactured in the U.S. Very briefly, these new specs raise the bar in five areas of motor oil performance: (1) emissions system protection, (2) cleanliness, (3) fuel economy, (4) seal protection and (5) ethanol fuel compatibility, an all new measure for oil.

Efforts to improve fuel economy have been ongoing since the fuel crisis of the seventies. Some of these measures include gasoline direct injection, weight reduction, aerodynamics, and advanced transmissions.

In the oil industry a major trend has been the increased adoption of thinner viscosity grades. The standard 10W-40 oil of my youth has gradually thinned to 10W-30, 5W-30, 5W-20 and 0W-30. By next year we'll see an estimated ten million Hondas and Acuras with 0W-20 viscosity oil in their crankcases, driven primarily by these efforts to improve fuel economy.

The other categories where specs are more stringent have also been evolving as well.
Simultaneously, in addition to API SN / ILSAC GF-5 we have the new dexos spec from GM coming into play. What's

interesting is that the new targets for dexos oils are not the same as for ILSAC GF-5. Some dexos performance standards, like piston cleanliness and engine sludge protection, exceed what the new ILSAC specs require. But in other categories, like emission system durability, fuel economy and E85 emulsion retention (the ethanol fuel issue), we see lower expectations for dexos than for GF-5. In short, we see variances in what GM and ILSAC see as the most important upgrades for motor oil.

It would be easy for oil change professionals to find all these changes to be somewhat confusing. Some people are even questioning peoples' motives.

The aims of GM and ILSAC are actually noble. If we're going to drive increasingly sophisticated vehicles, we need lubricants designed to meet increasingly sophisticated specs.

For years conventional lubricants lagged significantly in performance when compared to synthetic engine oils. There was very little pressure to improve because for most motorists the only thing they had to know about oil was to change it, frequently.

I read somewhere recently that motor oils made from Group I basestocks are going to be a thing of the past with these new standards in place. I don't doubt that we'll see a day when synthetic lubricants are the only choice for real engine protection that satisfies our emissions and fuel economy needs.

We're in the twenty-first century now. The pressure is on for motor oil manufacturers to perform. It's a lot easier with a synthetic solution. The light was created when AMSOIL was introduced in 1972 and Mobil subsequently followed. Now the sound is finally becoming a roar.