Energy Weenies Strike Again

By Gordon Jennings

My e-mail box runneth over, my fax machine hummeth, my telephone ringeth off the hook, and it seems that people dissatisfied with my oils article ("Motor Oil Basics," October '96) surely will plague me for all of my days unless I address their questions and calm their fears.

Besides, I erred in assuming the American Petroleum Institute's newer oil ratings would reflect an improvement, or at least equal, to those of older lubricants. I did not give enough weight to the fact that our federal government, America's inexhaustible well of folly and fiascoes, has taken an indirect hand in motor oil compounding. It's an ominous sign, if you consider some of the Feds' other actions.

Washington Naderites pushed for air bags in autos and tried to put them on motorcycles. Joan Claybrook's National Highway Traffic Safety Administration began talking up air bag requirements in the '70s, bringing them into increasing use and causing countless billions to be spent. They are required in virtually all of today's new vehicles.

Using NHTSA's own exculpatory statistics, we find all the money has gone to prolong the lives of 1750 errant drivers—while snuffing 60 or so kids. The first kid killed by an air bag died soon after the devices began to be tested in fleet vehicles, which exposed a danger NHTSA then ignored, despite further fatalities for the next two decades. However, they had ignored even earlier warnings from the people who were developing the air bag and didn't think they were ready for general use...fearing they might do more harm than good in the real world.

Even dismissing child fatalities on grounds that there are plenty more where those came from, Washington's weenies still are responsible for a scheme with the worst cost/benefit ratio of any government project since the infamous "Backward Bike," another creature of the NHTSA's loopy vision. Does this mean they're going to drop the air bag requirement? Not a chance.

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Government's energy weenies have a record of fixing one perceived problem and creating two or more others that are all too real. These are the geniuses whose gasoline distribution solution to the largely-symbolic Arab oil squeeze of the '70s created genuine shortages at service stations. Using old census data, they sent gasoline where Americans had been rather than where we were. My rural area was awash in fuel at the same time Los Angeles gas stations were closing early. There were fist-fights in the long lines waiting to reach the pumps.

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Remember when lightbulbs lasted? The long-lived bulb was extinguished by energy weenie demands that the common household lightbulb use less electricity. America's producers of lightbulbs jumped on that one like the fumble it truly was. Making an energy efficient light bulb was a simple matter of using a shorter, lighter-gauge piece of tungsten wire for the bulb's filament. In doing so, they made the energy weenies happy, cut bulb costs, and upped their sales because the new bulbs quickly burned out.

I have begun to suspect that the Feds' "Energy Conserving" motor oils are a near cousin of those lightbulbs. Motor oils are supposed to do four important things: cool, seal, cushion and lubricate. The government now has effectively decreed that low fluid drag shall be more important than any of the other oil properties. I am concerned that reduced engine life will prove to be a side effect of compounding oils for low drag.

Automobile manufacturers are required to meet federally mandated "corporate average fuel economy" standards, a thumbscrew that grows ever tighter. They get no relief when changes in fuel and emission limit cars' fuel economy lower. They have wrung about all the mileage increases they can get from improved combustion and mechanical friction reduction. So they now venture into what may be over-reliance on chemicals to satisfy miles-per-gallon targets of weenies who give no thought to miles per engine.

I believe we have arrived at the point where motorcycles' motor oil requirements are not all met by the new oils made for cars. Some divergence appeared when the Feds limited levels of phosphorous compounds like zinc dialkyldithiophosphate in motor oils to avoid poisoning catalytic converters, which most motorcycles don't have.

Most motorcycle transmissions also don't have their own oil supply, instead being lubricated by the engine's oil. Serious durability problems could arise using the new mileage-enhancing oils, with "Energy Conserving II" being about as thin as diesel fuel, and with little better lubricating properties. Ultra-thin oils are not themselves lubricants, except in a very narrow sense. They are made to behave like motor oils by the additives in them.

One class of additives are "friction modifiers," which are lubricating compounds with dipole molecules. These stick to metal like little magnets, and provide great boundary-layer lubrication—at a cost to themselves. Under load, when there is insufficient relative speed between opposing surfaces to create a fluid wedge, these molecules get sheared apart.

The other class of additives needed to make watery petroleum products work as motor oils are the "viscosity

index" improvers. Oil's viscosity is not constant; it falls as temperature rises, and the rate at which thinning occurs is its viscosity index. VI improvers are long-chain molecules that offset the thinning effects of temperature.

A 10W30 oil has an SAE rating of 10, meaning a Saybolt viscosity of 90 to 1220 at 130 degrees F. The "W" tells you the oil has been cold-tested and found to thicken at the same rate, right down to zero degrees F. The "30" means the VI improver in the oil makes it test like SAE 30 at 212 degrees F. The oil does not thicken with increased temperature, it just doesn't thin at the same rate as straight SAE grade 10 oil.

Multigrade oils are good because they provide good flow rates at low temperatures while maintaining their ability to "seal, cushion and lubricate" when an engine is hot. Unfortunately, multigrade properties are provided by VI improvers' long-chain molecules, which are susceptible to the shearing that occurs in a transmission.

Motorcycles' engines and transmissions test the shear stability of lubricants, running hotter, spinning faster and making more power per unit displacement than car engines. They're way out there in what would be pure racing engine territory for vehicles with four wheels.

Most motorcycle clutches run in oil, which means the friction modifiers in the latest energy conserving motor oils could cause clutch slip. People have been worrying about lubrication-caused clutch slip for years, and I have been telling them it's a nonproblem for just as long. Today I'm not so sure.

Motorcycle manufacturers have begun to worry about the direction the latest general-use oils are taking, foreseeing clutch and other problems. They look at 0W30 or 55W30 as truly problematical stuff, and will say privately (if not always publicly) that you shouldn't use it.

You can expect to get a lot of tub-thumping to persuade you to buy and use motorcycle-specific motor oils. We've had some of this in years past—but this time, thanks to the government's meddling, it isn't just smoke and mirrors. Too bad, because the motor oils of the recent past were superb. Those are the oils your motorcycle's manufacturer has recommended, and you can't get into trouble using them. But those oils are on their way to being things of the past, like leaded fuel, doomed by bureaucratic tunnel vision. MC