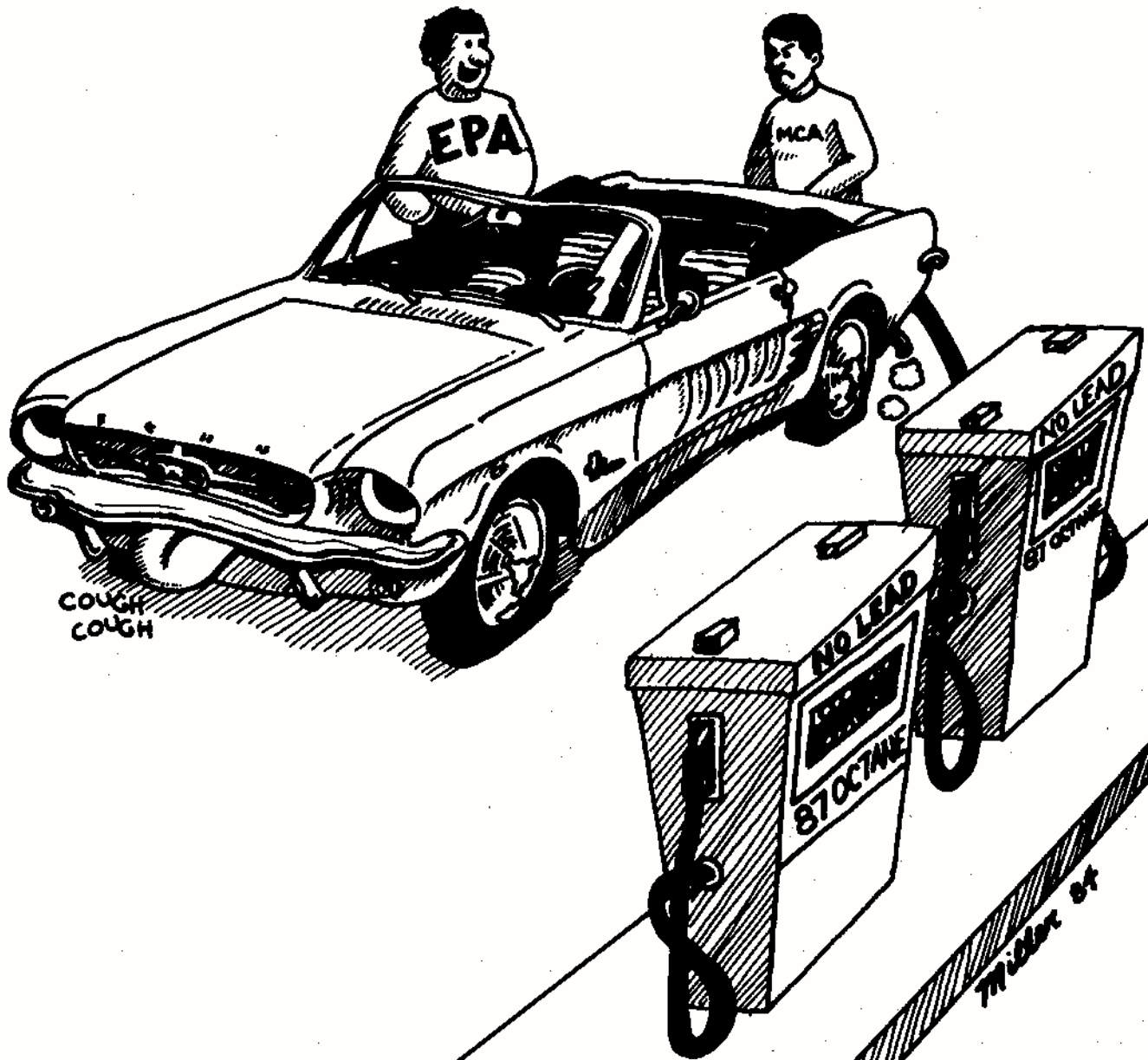


" Don't worry, he'll run FINE on No-Lead ! "



LEADED VS. UNLEADED?

The question of leaded gasoline as opposed to unleaded gasoline has been a great controversy to the public since the late 1960's. It is important to try to understand both sides of this issue before making any determinations pro or con. No matter what the final outcome of this very heated argument is, someone will be hurt.

Lead was added to gasoline to slow or retard the combustion process of the engine of the car. This retardation process helped the piston ignite with the spark at the top of its rotation process for maximum function of the engine. Lead also helped in lubrication of the valves. In the late 60's the EPA — Environmental Protection Agency — disclosed to the public that lead in gasoline released toxic fumes into the air causing great physical dangers to anyone breathing these fumes. The EPA immediately began a nationwide drive on the automotive industry to change their engines. Next they went to work on the oil industry to lower and eventually stop the addition of lead to gasoline. The Clean Air Act, introduced by the federal government in 1970, set a time schedule for phasing out lead as an additive to automotive fuel. Next the automotive industry got on the band wagon and introduced the catalytic converter to the engine of all new cars to be the all-purpose pollution savers. You just can't mix the catalytic converters and lead without destroying the engine of your car eventually. On the other hand, you can't put unleaded fuel into an engine requiring lead without ruining the valves and throwing the piston ignition process out of wack. The engine signals its driver by that all too familiar "ping ping" cry for help.

Suddenly with the so-called "energy crises" in full swing the price of all fuel sky-rocketed beyond belief and the poor consumer was too jolted by paying these devastating prices to realize that the oil companies were also phasing out their highest-octane grades of leaded fuel. "The problem facing owners of gusty 50's and 60's cars is how to slake the engine's thirst for high-octane fuel," states the April issue of *Car and Parts* magazine.

In order to keep these cars running at a top performance level there must be

some changes made. Substantial detuning, mechanical alteration, a variety of octane-enrichment techniques, or a combination of these changes has proven to be the best methods at this time. But these are expensive and not always accomplished properly which continues to plague the performance of cars that require lead in their tanks.

When the EPA first introduced its findings concerning the toxic fumes released by lead in gasoline most people merely discounted the idea, and believed that nothing would ever come of it. Eventually dates of lowering lead consumption were added to the EPA's demands, but people still said that's way off in the future and the fight will die down by then. Well, 1984 is here and 1988 has been set as the deadline for lead-free gasoline, and it is time to take a true close look at the problem.

Evidently lead is a lot more dangerous than anyone suspected. According to my research lead can enter the body by either breathing or through the skin if direct contact occurs. What then happens is that it builds up in the human body to a point beyond toleration. Lead is considered to be so dangerous that the only way it can be purchased retail by the average consumer is in leaded fuel and even then the lead content is limited to 1.1 grams per gallon by the federal government. The obvious question occurs, "If it is so dangerous then why has the automotive industry relied on it so heavily since the early 1920's?" The answer is really quite simple, they just haven't found anything that works better in the engine than tetraethyllead.

According to the *Boston Globe*, approximately 120 million pounds of lead are discharged into the air nationwide annually, and most of this is exhaust from vehicles. But the EPA does admit that the level has lowered substantially from 1971 with a record high of 450 million pounds of lead being let free into the air. Obviously the lead in the air is much more dangerous in highly congested and populated areas of the country because of sheer numbers of vehicles crowded onto the streets in such areas. The EPA argues that even though the level of lead is down considerably it is still way past the danger

level.

Another major problem is that even in leaded fuel, the lead is being lowered each year at such a rate that it affects the proper functioning of the engine. Just one year ago the lead content of premium gasoline was 0.8 grams per gallon, today it is down to 0.5 grams per gallon. You also have to remember that 0.5 grams is merely a "weighed" average. This means that it takes in the unleaded stocks that contain no lead. Will premium leaded still work in your treasured collector's cars? What do you think even a perfectly tuned Mustang with an 11.0:1 plus stock compression will do at today's low rates of lead? More than likely you'll "ping" all the way from your favorite fueling station. Your octane cushion has been removed and error is intolerable to that beautiful engine.

But "automobile collectors" are not the only consumer that is showing concern and rebelling. Even the owners of today's "modern vehicles" are trying to save money by adjusting their cars to accommodate leaded gasoline. In a recent survey taken by the EPA is six states including 1,800 cars, models 1974-1983, over one-fourth had had their emission control devices tampered with. They also found that fourteen percent of the vehicles checked had resulted in "fuel switching" because today's leaded fuel costs approximately seven cents less per gallon at the pumps. But not only the average consumer is concerned. What about the farmer whose farm equipment operates on regular fuel? What about fire apparatus that must use regular fuel? What about highway maintenance vehicles that must use regular fuel? What about construction equipment, power mowers, mini-buses, ambulances, rototillers, motorcycles, etc., etc., etc.? Who will eventually pay for the replacement of all these millions of vehicles being used with leaded fuel if it is banned? These are all questions that the EPA has been unable to answer for the consumer.

by Carroll Harris Loder