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REFORMULATED GASOLINE AND VEHICLE PERFORMANCE

United States Environmental Protection Agency

The 1990 Clean Air Act (Act) requires the Environmental Protection Agency (EPA) to issue regulations that would require gasoline to be "reformulated" so as to result in significant reductions in vehicle emissions of ozone-forming and toxic air pollutants. These regulations were subsequently developed through negotiations with industry, federal and state governments, and environmental and consumer groups, which resulted in ***cleaner burning gasoline that provides the same vehicle performance characteristics as conventional gasoline***. This cleaner gasoline is called reformulated gasoline (RFG). RFG is required to be used in nine major metropolitan areas of the United States with the worst ozone air pollution problems. In addition, several other areas with ozone levels exceeding the public health standard have voluntarily chosen to use RFG.

Reformulated gasoline will have no adverse effects on vehicle performance or the durability of engine and fuel system components. In fact, the nation's major auto manufacturers support - even recommend - the use of RFG.

There are hundreds of different formulations for making gasoline. And the ingredients used to make RFG are no different from ingredients used to make conventional gasoline. RFG and conventional gasoline differ only in the levels at which the ingredients are used, thereby reducing the use of ingredients that contribute to air pollution. Like other gasolines, however, RFG is formulated to burn in a manner that will suit the power requirements of the vehicles in which it is used. While vehicle performance has always been considered when choosing a fuel formulation, emissions performance of fuel formulations had generally not been considered until the Clean Air Act mandated reductions in vehicle emissions. Now, with reformulated gasoline, emissions performance is considered along with the other requirements to produce high quality gasoline. This means that in terms of RFG's affect on driveability, vehicle owners should notice little change in vehicle performance but harmful emissions will be reduced dramatically.

In order to understand why RFG should provide the same performance characteristics but better emissions properties when compared to conventional gasoline, it is important to note how it differs and how it is the same as other gasolines:

- RFG is different from some conventional gasolines in that:
  - RFG has lower levels of certain compounds that contribute to air pollution.
  - RFG will not evaporate as easily as conventional gasoline.
  - RFG will contain "chemical oxygen" (oxygenates).

- Gasoline is made up of different hydrocarbon compounds, including aromatics, olefins, and benzene, all of which contribute to ozone and toxic air pollution. The levels at which these components are present in RFG will be lower, resulting in fewer harmful emissions. Although, when compared with RFG, certain conventional gasolines have had the same levels of some of these components, few, if any, conventional gasolines have contained low levels of all of these components.

- RFG will have a lower volatility during the summer months. This means that it does not evaporate as easily as conventional gasoline. Reducing the ability of gasoline to evaporate reduces the amount of ozone-forming hydrocarbons released into the atmosphere.

- Similar to many gasolines, RFG will contain "chemical oxygen" (oxygenates). The addition of oxygenates to gasoline is not a new practice. Since the late 1970's, oxygenates have been added to fuels for purposes of octane enhancement.

- The presence of oxygenates in RFG may result in a 1 to 2 percent reduction in gas mileage in some vehicles when compared to fuel in which oxygenates have not been used. However, gas mileage is affected - to a greater extent - by type of engine, driving habits, weather conditions, and vehicle maintenance.

- If you travel outside an RFG area and have to fill up with conventional gasoline, your car's performance will not be affected by mixing the two types of gasoline.

In summary, the reformulated gasoline program will result in consistently better gasoline that burns more efficiently, has reduced evaporative tendencies, and contains fewer impurities...for the benefit of human health and the environment.