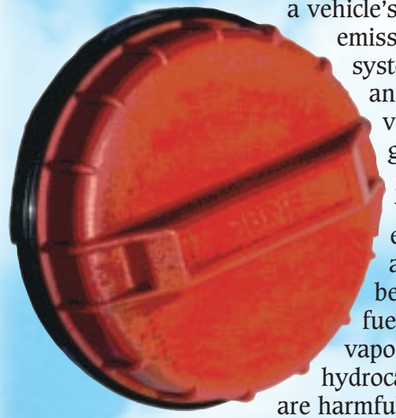
Gas Caps

On June 30, 2001, the Vehicle Emissions Inspection Program added a quick and simple check to ensure that gas caps on vehicles are working properly. Gas caps are an important part of a vehicle's emissions control equipment. Properly sealing gas caps ensure that a vehicle's evaporative emissions control system can recover and use gasoline vapors. Leaking gas caps allow gasoline vapors to escape into the air instead of being used for fuel. Gasoline vapors contain hydrocarbons which are harmful to breathe.



The gas caps are checked on an advisory basis for now. During this advisory, if a gas cap leaks, and the vehicle passes the emissions test, the motorist will not be required to replace the gas cap. If the gas cap leaks, however, we encourage the motorist to replace it with one designed for the specific vehicle make and model.

Diesel Testing

Last summer the Maryland State Police began smoke testing on heavy-duty diesel vehicles at weigh and inspection stations and during road-side pullovers. Diesel emissions are a primary source of fine particles that cause breathing problems in humans. Proper maintenance of the vehicle can prevent excessive smoke. A maintenance schedule that includes changing air filters, correcting fuel injector timing, setting the smoke limiter to the proper adjustment, and a thorough check for oil leaks through the turbocharger oil seal will help to minimize smoke emissions. To learn more about Maryland's Diesel Vehicle Emissions Control Program, visit www.mde.state.md.us/arma/Programs/Mobile/Diesel/diesel.html

Reminder

The waiver qualifying repair expenditure limit is $450 for all vehicles that are given an initial VEIP inspection after January 1, 2002.

We Need You!

Do you have something to say to our readers? Have you found a good fix for an emissions problem? Do you have ideas for future editions? Our editor is waiting to hear from you! Please call Margie at 410-631-3270 or e-mail her at mwise@mde.state.md.us

MDE

Clean Air Courier is a new publication for Maryland motorists, repair professionals and everyone else.

Clean Air Courier includes: Expanded coverage of mobile sources topics, VEIP updates, Diesel News, Fuel News, Policy updates and more . . .

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Clean Air Courier

News about transportation technologies, choices and the environment

Advanced Emission Control Technology

This is an excerpt of an article which appeared in the Fall 2000 issue of Clean Air Technology News. Clean Air Technology News is published by the Institute of Clean Air Companies (ICAC) and the Manufacturers of Emission Controls Association (MECA).

As a result of motor vehicle emission control technologies, nationwide air quality has improved significantly. Since 1970, lead levels have dropped by 98 percent and air quality has improved by over 30 percent. All of this progress in cleaning up the air occurred simultaneously with significant population growth, commercial and industrial expansion, and a more than doubling of the number of vehicle miles driven in the United States.

Automobile pollution controls in the early 1970s were less sophisticated by today's standards, however, to meet the tougher standards set by Congress, the 1975 models introduced a number of advanced technologies, such as improved waterproof and heat-resistant ignition systems and the catalytic converter, or catalyst, as it is often called.

The introduction of advanced emission control technology, led by the catalytic converter, sparked an automotive revolution that saw the beginning of a dramatic and continuing reduction in automobile pollution that is still progressing today. Since the late 1970s, catalyst technology has improved, and electronic controls and more advanced fuel delivery systems have been introduced. In addition, engine life has improved by at least a factor of two, coupled with reduced maintenance and longer spark plug and exhaust system life.

Today's automobiles are meeting emission standards that require reductions of more than 98 percent for hydrocarbons (HC), 96 percent for carbon monoxide (CO), and 95 percent for nitrogen oxides (NO_X), compared to the pre-control levels emitted. To date, over 500 million vehicles worldwide have been equipped with catalysts and other advanced emission control technology components, and it was estimated that by the year 2000 over 85 percent of the new automobiles sold around the world would have a catalytic converter. Since 1975, motor vehicles equipped with advanced emission control technology have cut pollution by over three billion tons worldwide. Vehicles equipped with catalytic converters brought about the elimination of lead in gasoline. Lead is recognized as a hazardous substance that, even at low levels poses a serious risk to human health. The use of catalyst technology also has reduced the production of other mobile source air toxics such as benzene.

Despite the significant progress being made in cleaning up the air we breathe, significant air quality problems remain. Over 60 million Americans live in areas with unhealthy air and the most susceptible populations continue to be the young, elderly, and the poor. To address these problems, Congress enacted comprehensive revisions to the mobile sources program in 1990. Meeting the challenges of the Clean Air Act and achieving our goal of healthy air calls for innovative strategies, and once again, advanced emission control technology is expected to play a critical role.

Natural Gas Vehicles

We are happy to announce that the Air & Radiation Management Administration recently purchased three vehicles powered solely by clean-burning natural gas. These include a Ford F-150 pickup truck and two Honda Civic GX sedans. The Maryland Department of the Environment (MDE) also has several vehicles that may be run on either gasoline or natural gas.

As many of you know, we are a fairly large organization, and many of our inspectors drive many miles each day in the performance of their work. Natural Gas Vehicles (NGVs) offered us a way to promote clean air as we work. The Honda sedans will be driven by our Stage II Vapor Recovery inspectors as they visit the more than 500 facilities that dispense gasoline throughout Maryland. These inspectors routinely drive nearly 100 miles each day. The Ford pick-up truck is driven by members of our Air Monitoring Program who are on the road daily as they check equipment and gather data from our network of 18 monitoring stations throughout the State.

"At first I was a little apprehensive about having a truck running on natural gas. I was really surprised by the performance. If I didn't tell you the truck ran on natural gas, you would never know. Filling the truck with natural gas is as easy as using gasoline and there are plenty of facilities around the State to keep it fueled."

Chris Smith, Unit Leader,
Air Monitoring Program

In addition to MDE, many other State agencies are using NGVs as part of their fleets. The Maryland Energy Administration, Department of Transportation, Mass Transit Administration, the Division of Public Safety and Corrections and several other agencies drive NGVs. Currently, State government has approximately 154 NGVs in its fleet. Local governments and private fleets are also using NGVs. These include Montgomery County, BWI Airport, Baltimore Gas and Electric, Super Shuttle, Barwood Cab Company and Silver Cab Company.

NGVs are available from several different sources. Individuals or fleets can purchase dedicated NGVs from Honda, Ford, Chevrolet and other manufacturers. Cars, trucks and vans may be powered by natural gas and are covered by standard factory service and warranties.

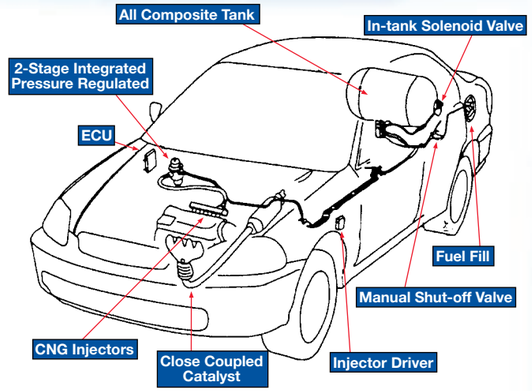
NGVs can be either dedicated (runs only on natural gas) or bi-fuel (runs either on natural gas or gasoline). Alternatively, some bi-fuel NGVs run on natural gas and diesel. In general, dedicated NGVs run better and produce lower emissions because their engines are designed to operate on natural gas and do not have to accommodate different fuels.

Environmental Benefits

NGVs offer many environmental benefits compared to conventional gasoline-fueled vehicles. NGVs produce significantly lower amounts of nitrogen oxides than gasoline-fueled vehicles. This cleaner burning fuel helps to reduce Maryland's ozone air pollution problem by lowering hydrocarbon emissions. NGVs are also beneficial because they emit lower amounts of carbon monoxide.

NGV Facts

- There are more than 70,000 NGVs on United States roads and nearly one million worldwide.
- There are more than 1,300 NGV fueling stations in the United States with more than half available for public use.
- Natural gas costs, on average, one third less than conventional gasoline at the pump.
- 22 percent of all new transit bus orders are for natural gas fueled vehicles.
- More than 40 manufacturers offer NGVs and natural gas fueled engines.
- Natural gas contains less carbon than any other fuel per unit of energy, and hence produces the least carbon dioxide emissions.
- Dedicated NGVs produce little or no evaporative emissions during fueling or operation.



- Compressed natural gas dissipates into the atmosphere in the event of an accident.
- Natural gas has a high ignition temperature (about twice as high as the ignition temperature for gasoline).
- Natural gas is neither toxic nor corrosive, and it will not contaminate ground water.

Refueling

If you are thinking about acquiring a CNG vehicle, there are a number of places where you can refuel. These include Crown Stations in Millersville, Timonium and White Marsh, several car dealerships, and a number of Baltimore Gas and Electric (BGE) Stations. A billing account, similar to your utility bill, needs to be set up for access to the BGE locations. The BGE contact name is John Linek, and his number is 410-291-4652. A complete list of refueling stations is available in a publication entitled Mid-Atlantic Regional Alternative Fuel Vehicle Refueling and Maintenance Directory for Compressed Natural Gas. This directory is available by calling our office at 410-631-3270. You can also go online and get refueling locations at: www.afdcmap.nrel.gov/nrel or www.energy.state.md.us.

Thanks!

We would like to thank Dennis Morgan for his years of dedicated service to the Certified Emissions Repair Facilities (CERFs) and Master Certified Emissions Technician (MCET) programs. Dennis is still working with us but has new responsibilities. Mark Joyner is now the point of contact for CERFs and MCETs. Many of you know Mark from his work as a VEIP inspector. The telephone and fax numbers remain the same. (Phone 410-631-3270; Fax 410-631-4435)

VEIP
Let's Clear The Air