



Maryland
Department of
the Environment

Tampering with Vehicle Emission Control Systems - An Emerging Issue



Air Quality Control Advisory Council – June 14, 2021

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Outline

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A bright sun is positioned in the upper right quadrant of the image, casting a strong glow and creating a lens flare effect. The sky is a deep, clear blue, and several large, fluffy white cumulus clouds are scattered across the scene, particularly on the left and right sides. The overall atmosphere is bright and clear.

TAMPERING BACKGROUND



The Basic Issue

- Over the past few years, Maryland, the U.S. Environmental Protection Agency (EPA) and other states have begun to investigate and take action against companies and individuals who tamper with the emission control systems on vehicles
 - Large and small vehicles
- The Volkswagen case was the first major action taken by EPA to address this issue
- Five years ago, this issue was not understood to be a major emissions problem
 - It is now viewed as a major problem and clearly linked to Maryland's challenging ozone problem
- It is estimated that tampered vehicles are emitting up to 2,900 excess tons of nitrogen oxide (NOx) emissions during the ozone season in the seven states that make up the Mid-Atlantic region*



What is Tampering?

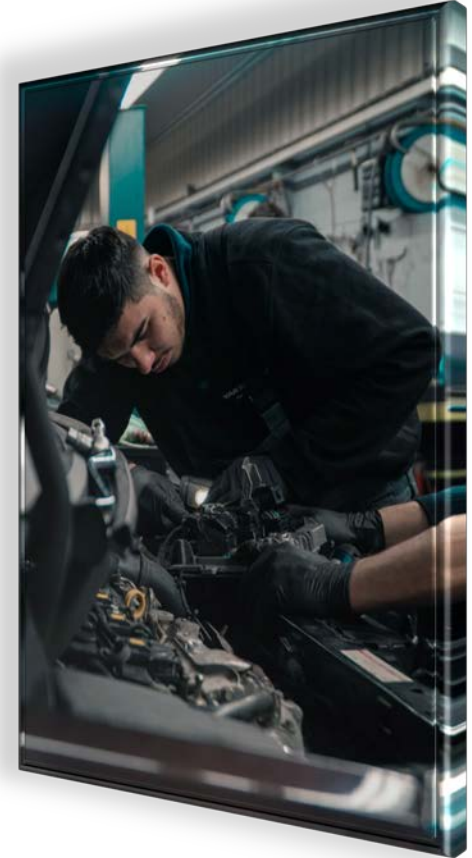
- Tampering can take two basic forms:
 - Removing hardware, filters and catalysts in the stock emission control system
 - This hardware can be located in the engine (e.g. Exhaust Gas Recirculation (EGR)), or
 - In the exhaust system (eg. Diesel Particulate Filter or Selective Catalytic Reduction)
 - Replacing or altering the software or calibrations that control engine operation, sometimes referred to as "tuning"
 - Tuning may increase engine emissions,
 - Allow a vehicle or engine to operate without emissions controls, or
 - Prevent the onboard diagnostic system from recognizing that the vehicle or engine is functioning differently than originally designed and certified





Why Are Vehicles Tampered With?

- People who tamper with vehicles do so for multiple reasons. Some are true ... others are not. Potential reasons include:
 - More power & torque
 - Better fuel economy
 - Customization, including the ability to "roll coal"
 - Reduced maintenance cost
 - Avoiding potential downtime for control device regeneration or failure
- Vehicle owners may not realize that tampering is illegal and may increase emissions
- Tampering can also void a vehicle's warranty





Tampering and Emissions

- Tampering may cause excess emissions of nitrogen oxides (NO_x), particulate matter (PM), and other pollutants to the air we breathe
- Recent EPA investigations indicate that controls on over 500,000 diesel pickup trucks, about 13% of those registered, have been fully removed or deleted through tampering
- The excess NO_x emissions from these vehicles is the equivalent of adding about 9 million trucks to our roads





Local NOx and PM Emissions

- The EPA estimates that in the next decade close to 100,000 excess tons of NOx and 890 tons of PM could be emitted in the Mid-Atlantic states due to aftermarket tampering of diesel mobile sources
- EPA estimates that roughly 58,000 diesel vehicles in Mid-Atlantic States had their emissions controls completely removed (deleted) in the preceding decade
- EPA estimates that from 2009-2019, Maryland had 5,900 diesel trucks operating with deleted devices
 - Excess NOx emissions from these vehicles amounted to 6,000 tons during this period (600 tons per year or 1.64 tons per day)
 - Excess PM emissions from these vehicles amounted to 64 tons during this period (6.4 tons per year)



Volkswagen Emission Scandal

- Between 2009 and 2015, Volkswagen violated the Clean Air Act (CAA) by installing software designed to defeat vehicle emissions standards
 - In the resulting settlement, the manufacturer is required to mitigate pollution increases through investments that include vehicle replacements and supporting Zero Emission Vehicles (ZEV) technology
 - The Volkswagen Trust is funding some 40 projects in Maryland that replace older, dirty diesel engines with new, cleaner technologies
 - About \$76 Million being invested into clean air
- The Volkswagen scandal brought tampering of vehicle emissions to the broader attention of environmental agencies and the public



Other State Programs

- Minnesota, New Jersey and Ohio have updated tampering regulations in place
- Maryland will be one of the early adopters of enhanced tampering regulations and compliance efforts
 - Delaware, District of Columbia and Pennsylvania following
- Maryland has reached out to vehicle dealers and associations to inform them of existing and proposed regulations
 - MDE compliance inspectors are undergoing training to enforce the new regulations
 - MDE believes that greater public awareness of the vehicle tampering issue will begin to reduce illegal tampering



MDE Outreach Efforts

- MDE has already begun to do outreach on this issue
- A compliance advisory has been distributed to interested parties and other stakeholders
- A fact sheet for use with the general public is available
- A web page on vehicle tampering is now available on the MDE web site
 - <https://mde.maryland.gov/programs/Air/MobileSources/Pages/Anti-Tampering.aspx>
- MDE has also initiated over a dozen investigations

A bright sun shining through a blue sky with white clouds. The sun is positioned in the upper right quadrant, casting rays across the sky. The clouds are scattered and fluffy, with some larger ones on the left and right sides. The overall scene is bright and clear.

EXISTING PROHIBITIONS



Existing Maryland Prohibitions

- Tampering with a vehicle's emissions control system is illegal under existing State law and regulations and the federal CAA
- The existing Code of Maryland Regulations 26.11.20.02, codified in 1989, prohibits the tampering or removal of motor vehicle emission controls
- Maryland regulations currently prohibit the operation of a motor vehicle that has had the air pollution control equipment tampered or removed
- Violation of Maryland's anti-tampering laws may result in a civil penalty of up to \$25,000 per day per violation (Environment Article, Annotated Code of Maryland, §§ 2-610 and 2-610.1)
- In addition, a person who knowingly tampers with a vehicle may be found guilty of a misdemeanor, and subject to a fine not exceeding \$25,000, imprisonment of up to 1 year, or both for a first offense (Environment Article, Annotated Code of Maryland, § 2-609.1)



Federal Prohibitions

- The CAA contains two relevant requirements – one related to tampering and the other to defeat devices. The following acts (and causing them to occur) are prohibited:
 - For anyone to remove or render inoperative any device or element of design that had previously been installed on a motor vehicle or engine in order to comply with CAA regulations
 - For any person to manufacture or sell, or offer to sell, or install, a part or component for a motor vehicle, where:
 - A principal effect of the part or component is to bypass, defeat, or render inoperative any device or element of design that had previously been installed on a motor vehicle or engine in order to comply with CAA regulations, and
 - The person knows or should know that such part or component is being offered for sale or installed for such use or put to such use
- The CAA states that it is a crime to knowingly falsify, tamper with, render inaccurate, or fail to install any monitoring device or method required under the CAA. Vehicle Onboard Diagnostics (OBD) systems are a "monitoring device or method" required under the CAA



Federal Enforcement

- MDE is already working in partnership with EPA
- On November 23, 2020, EPA updated its *Enforcement Policy on Vehicle and Engine Tampering and Aftermarket Defeat Devices*
 - <https://www.epa.gov/enforcement/epa-tampering-policy-epa-enforcement-policy-vehicle-and-engine-tampering-and-aftermarket>
- Recent EPA enforcement activity is highlighted in the April 30, 2020 press release *EPA Highlights Enforcement Actions Against Those Who Violate The Defeat Device and Tampering Prohibitions under the Clean Air Act*
 - <https://www.epa.gov/newsreleases/epa-highlights-enforcement-actions-against-those-who-violate-defeat-device-and>
- Violations are widespread and financial penalties are significant. Those who sell or install devices to defeat emission controls can be fined over \$4,800 per defeat device, and dealers can be fined over \$48,000 per tampered vehicle. Over the past five years, EPA has closed over 60 civil tampering cases, and the Department of Justice has filed criminal charges in others.



PROPOSED AMENDMENTS TO MARYLAND'S REGULATION



Purpose of Proposed Regulation

- The purpose of this action is to update and clarify Maryland's existing regulations on vehicle tampering - COMAR 26.11.20.02
 - This is accomplished by repealing existing Sections A-C and
 - Adding new Sections A-G
- This action clarifies and expands Maryland's regulations
 - The proposed Regulation prohibits the manufacture, sale, installation, and use of any device that prevents a motor vehicle's air pollution control system from operating as originally designed
 - The proposed Regulation also:
 - Requires a vehicle dealer or business that sells, auctions or transfers a motor vehicle to maintain records confirming all air pollution control systems are in operating conditions at the time of sale and
 - Codifies the Department's rights to conduct inspections and surveillance of new and used motor vehicles for the purposes of determining compliance with the requirements of this Regulation



Who Does This Regulation Affect?

- The proposed Regulation applies to:
 - A person who services any emissions-related aspect of any vehicle, engine, or piece of equipment;
 - A person who manufactures, distributes, or installs emissions-related parts;
 - A person who offers for sale, leases, auctions, sells or transfers a motor vehicle; and
 - A person who operates a motor vehicle.





Exemptions

- The proposed Regulation does not apply to the sale or transfer of a motor vehicle for the purpose of scrapping, dismantling, or destroying the motor vehicle if:
 - A certificate of salvage has been issued by the Maryland Motor Vehicle Administration that establishes a motor vehicle may not be operated on public roads; or
 - Sufficient documentation and proof is provided to the Department's satisfaction that a motor vehicle has been scrapped or will be scrapped within 30 days.
- The proposed Regulation does not prevent the service or repair of any air pollution control system
- The proposed Regulation does not apply to motorcycles



Record Keeping Requirements

- Records are to be maintained onsite for a period of 5 years by a vehicle dealer or business that sells, auctions or transfers motor vehicles. Records must be made available to the Department upon request
- A vehicle dealer or business that sells, auctions or transfers a motor vehicle must maintain records including:
 - Date of sale or transfer of motor vehicle;
 - Fuel type of motor vehicle;
 - Motor vehicle description (i.e. make, model, year, GVWR);
 - Vehicle Identification Number (VIN); and
 - Statement that all air pollution control systems are in place and in operating condition



Compliance Inspections

- The Department or its agents have the right to conduct inspections and surveillance of new and used motor vehicles for the purposes of determining compliance with the requirements of this proposed Regulation
- The inspections may:
 - Be conducted on any premises owned, operated, used, leased, or rented by any vehicle dealer;
 - Extend to all emissions-related parts and their operation;
 - Require the on-premises operation and testing of an engine or vehicle; and
 - Require inspection of any related records, including records of emissions-related part repairs performed under warranty



Compliance Inspections

- Refusal to allow, or interference with, the inspections shall be considered a violation of this Regulation. A person who violates any provision of this proposed Regulation is subject to the sanctions set forth in Environment Article, Title 2, Annotated Code of Maryland
- Each non-compliant vehicle is a separate violation





Anti-Tampering Web Links

- Maryland Anti-Tampering Program
 - <https://mde.maryland.gov/programs/Air/MobileSources/Pages/Anti-Tampering.aspx>
- MDE Compliance Advisory
 - <https://mde.maryland.gov/programs/Air/MobileSources/Documents/Anti-Tampering/MDE%20Diesel%20Compliance%20Advisory.pdf>
- Small Business Regulation Notifications
 - <https://mde.maryland.gov/programs/Regulations/HB1124/Pages/index.aspx>



Schedule

Active Investigations – Ongoing

AQCAC – June 14, 2021

Notice of Proposed Action – September 2021

Public Hearing – October 2021

Notice of Final Action – December 2021

Final Effective Date – January 2022



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QUESTIONS?