



## Modified Vehicles and Auto Emissions Testing

### (Engine switch, rebuilt, gray-market, self-assembled and kit cars)

Ohio EPA receives many questions about vehicles that have been altered, and how engine-switched, rebuilt, gray-market, self-assembled and kit cars relate to the E-Check vehicle emission inspection program. This fact sheet was created to answer these questions.

#### Engine-Switched Vehicles

In an engine-switched vehicle, the original engine has been replaced with a different engine. This different engine may have been offered in the same model year as that vehicle or it may be from another year or manufacturer.

Engine-switched vehicles are tested by the model year the vehicle was titled because they were certified to meet emissions requirements for that year.

These vehicles must meet the inspection requirements for the titled model year, including the tampering portion of the test. If older, less-clean technology is put in a vehicle, it decertifies the vehicle, promotes poor performance and violates the Clean Air Act.

#### How were engine-switching procedures established?

U.S. EPA established engine-switching procedures to comply with the federal Clean Air Act. The following is an excerpt from U.S. EPA's Engine-Switching fact sheet:

*"A 'certified configuration' is an engine or engine-chassis design which has been 'certified' (approved) by EPA prior to the production of vehicles with that design. Generally, the manufacturer submits an application for certification of the designs of each engine or vehicle it proposes to manufacture prior to production. The application includes design requirements for all emission related parts, engine calibrations, and other design parameters for each different type of engine (in heavy-duty vehicles), or engine-chassis combination (in light-duty vehicles). EPA then 'certifies' each acceptable design for use in vehicles of the upcoming model year.*

*"For light-duty vehicles, installation of a light-duty engine into a different light-duty vehicle by any person would be considered tampering unless the resulting vehicle is identical (with regards to all emission related parts, engine design parameters, and engine calibrations) to a certified configuration of the same or newer model year as the vehicle chassis, or if there is a reasonable basis for knowing that the emissions are not adversely affected as described in Memo 1A\*. The appropriate source for technical information regarding the certified configuration of a vehicle of a particular model year is the vehicle manufacturer.*

*"For heavy-duty vehicles, the resulting vehicle must contain a heavy-duty engine which is identical to a certified configuration of a heavy-duty engine of the same model year or newer as the year of the installed engine. Under no circumstances, however, may a heavy-duty engine ever be installed in a light-duty vehicle."*

\* **Memo 1A** is a federal document that allows the use of aftermarket parts on vehicle emission systems.

Despite these clear guidelines, proper engine switches are uncommon. Usually a 1980's vehicle has had a 1970's motor installed because of availability and cost. Such a vehicle has been decertified and will likely fail an emissions test.

#### Rebuilt Vehicles

A rebuilt vehicle was given a salvage certificate of title and has since been refurbished and passed the Ohio State Highway Patrol Inspection. This vehicle type can be titled in the model year that the majority of the parts are from or that matches the outward appearance of the vehicle. This vehicle type can also be titled with the original year and Vehicle Identification Number (VIN) but will have a notation that it was salvaged.

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Rebuilt vehicles are tested according to their titled year because they were certified to meet emissions requirements for that year (if the vehicle is assigned a new VIN by the Ohio State Highway Patrol, it will be treated as a self-assembled vehicle). These vehicles met emissions standards when manufactured, but were later salvaged. When an individual makes a rebuilt vehicle road-worthy, it also needs to be emissions-worthy.

### Gray-Market Vehicles

A gray-market vehicle was built for sale and use in another country and later imported into the United States. There may or may not be a U.S. EPA-certified version of the vehicle. These vehicles either received an "Import Waiver" from U.S. EPA and U.S. Customs or were retrofitted with emissions equipment to meet emissions standards for that model year. Even if a vehicle has been issued a U.S. EPA import waiver, the vehicle is not exempt from applicable state or local emission requirements. These conditions are stated directly on most import waivers (usually the third paragraph).

Gray-market vehicles are tested by their model year because the importer chose to either bring the vehicle into compliance with U.S. standards or to receive waivers and accept the stipulated conditions when the vehicle was brought to the U.S. They are required to meet the same emissions standards as a U.S. EPA-certified version of the vehicle from the same year. If the U.S. EPA-certified version of this vehicle has a catalytic converter, the gray-market vehicle will be required to have a catalytic converter (or sealing gas cap, air pump and air system, evaporative system, etc.). If there is no U.S. EPA-certified version, the vehicle shall, at a minimum, have a catalytic converter and a sealing gas cap if the manufacturer used that strategy on a comparable, same-year U.S. EPA-certified model that fits the same vehicle class. If the vehicle has no comparable U.S. version, consult U.S. EPA as to whether a catalytic converter would have been installed on the vehicle upon importation to conform with federal emissions requirements.

### Self-Assembled Vehicles and Kit Cars

A self-assembled vehicle is made from parts of other automobiles or from aftermarket parts. A self-assembled vehicle is titled in the year in which it is brought to the Ohio State Highway Patrol for inspection. It is assigned a VIN by the patrol. The self-assembled vehicle can be considered "homemade" and some are titled that way.

A kit car also is titled in the model year in which it is inspected by the Ohio State Highway Patrol. Kit cars often include dune buggies and fiberglass body replicas. Kit cars are like self-assembled vehicles except they are usually fiberglass bodies and come with instructions for assembly.

Kit cars and self-assembled vehicles are tested according to the titled year unless the engine year can be confirmed. This confirmation of engine year is the responsibility of the vehicle owner. The proof should be a letter from the dealer or manufacturer of the engine. Other forms of proof will be considered on a case-by-case basis.

Once the engine year is documented, schedule an appointment with the local Ohio EPA E✓Check field office by calling (330) 963-4479. Arrangements will be made for you to meet with an Ohio EPA representative at a designated location.

You will need to bring your documentation and the vehicle with you. It is helpful if you can point out where the engine block casting number is located.

If your vehicle's engine year is within the scope of the emissions testing program, you will be given a form that allows the vehicle to be tested using the proper standards for that engine year. You will need to present this at the testing site each time the vehicle is tested.

If your vehicle's confirmed engine year is too old to fit into the scope of the emissions testing program, you will be given a permanent exemption.

#### More Information

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