



NJ-CERT Module 6:

Tampering, Grey Market Vehicles & Engine Swapping

A course made for New Jersey's Certified Emission Repair Technician (ERT)

Presented by the NJ Department of Environmental Protection (DEP)
Bureau of Mobile Sources



- **Note:** If you have not printed out the [Master Acronym List](#), please do so now **OR** have it open while viewing these Modules.
- For detailed rules and regulations, please visit [Section 2](#) on the NJ-CERT homepage.

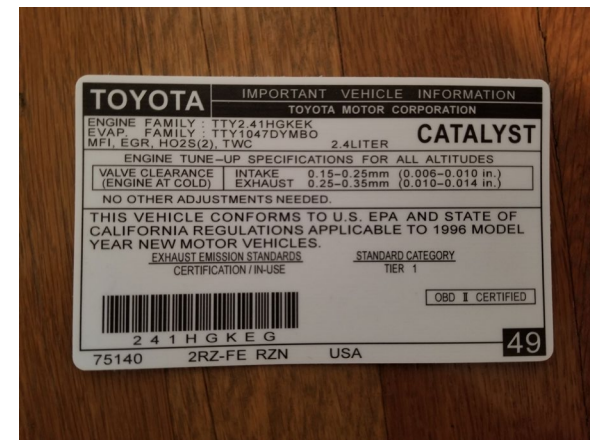
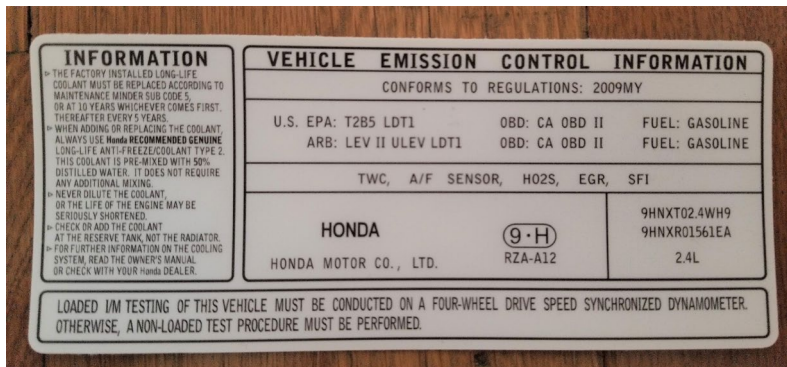
Thank you

Certification

- Every new vehicle is certified by California and/or the US EPA for sale in the US.
 - That certification describes the level of emissions or pollutants that a particular year/make/model/engine/transmission combination may emit when new. This is what we call a “certified configuration.”
- The certified configuration essentially locks down what emission controls are needed on that vehicle to adequately control pollution at regulated limits.
- The emission controls comprises not just hardware but also the OBD system and software.

What emission controls are required?

- There are several ways to determine what emission controls a vehicle should be equipped with.
 1. The primary source is the under hood Vehicle Emissions Control Information label (or VECI label). This will not only tell you the model year and certification class, but also list what emission control devices are used.
 2. There are aftermarket emission control information manuals, such as the one produced by MOTOR Information Systems.
 3. You may also use aftermarket online automotive repair systems like Mitchell and ALLDATA.
 4. The vehicle manufacturer itself, or their service manuals, can also help you.



What is tampering?

- NJ regulations ([N.J.A.C. 7:27-15.7](#)) prohibit the “The disconnection, detachment, deactivation, or any other alteration or modification from the design of the original vehicle manufacturer of an element of design * installed on any motor vehicle with a certified configuration or motor vehicle engine with a certified configuration, except temporarily for the purpose of diagnosis, maintenance, repair or replacement.”
- It is also illegal to operate a tampered vehicle on NJ’s roads, or to sell, lease, or offer such vehicle for sale or lease.

***including OBD software**

What aftermarket parts are legal to use?

- Exceptions are permitted for aftermarket parts approved by CARB for a specific application.
 - You can check CARB's extensive online database of aftermarket devices here: <https://ww2.arb.ca.gov/aftermarket-parts-verification>.
- Many performance parts and modifications are in the database, which gives motorists a range of options to modify vehicles.
- CARB approval does not guarantee that the device does what it claims – only that the device will not make the vehicle pollute any worse.
- If you have trouble locating a part in CARB's database, get the Executive Order number from the part manufacturer and then look that up to confirm the application. If the manufacturer can't give you an Executive Order number, then there's a chance the part is not legal.

Repairing tampered vehicles

- Questions sometimes arise as to the legal consequences of performing work on a tampered vehicle.
- The act of tampering or installing an un-approved device or software is illegal.
- It is legal to repair tampering by restoring a vehicle to factory configuration or replace missing emission controls. However, repair technicians may still refuse to work on tampered vehicles to protect themselves from enforcement action.

Racing and off-road vehicles

- Any motor vehicle certified by California, starting with model year 1966, or by the US EPA, starting with model year 1968, may not be “de-certified” for racing or off-road use.
- The proper way to build a race car is to obtain a body-in-white and build it up from there. Taking a street legal vehicle and removing emission controls – even if the intent is to never put the vehicle on the road again – is still not legal.

Grey Market Vehicles

- Vehicles that were not manufactured for sale in the US are called grey market vehicles.
- Most commonly, these are European, or sometimes Canadian, Mexican, or Japanese vehicles. Grey market vehicles are not street legal in NJ, because they are not certified to US EPA or California emission standards.
- The federal government has strict requirements for importing grey market vehicles. Documentation from the US EPA and US Customs is required. You can find more information on the requirements here:
<https://www.epa.gov/importing-vehicles-and-engines>
- A grey market vehicle without all the required paperwork runs the risk of not being able to be registered, insured, or get through inspection.

Engine Switching

- There is a federal policy (<https://www.epa.gov/enforcement/engine-switching-fact-sheet>) regarding engine switching that NJ adheres to. Basically, you can only swap engines in a vehicle if the new engine meets all the following:
 1. was originally available from the manufacturer as a certified configuration option and you simply want to switch to the other engine;
 2. is of the same model year as the vehicle or newer; and
 3. is installed with all emission controls required of the new engine.
- Keep in mind that for OBD-equipped vehicles, the new configuration must have a fully functional OBD system that reports all supported readiness monitors and is not setting any codes, otherwise it will fail inspection.

Tuning, Reflashing, and Chipping

- With the advent of computer-controlled engines in the 1980s, motorists have had a way to reprogram a vehicle's performance, with or without mechanical modifications.
- Originally, this was accomplished by replacing an integrated circuit or “chip” in the engine computer. Now, much more can be done through the OBD port by “reflashing” the engine computer or using an aftermarket electronic tuner.
- Some of these devices are legal and some are not.
 - Refer to CARB's database of aftermarket parts under the “Electronic Control Unit / PROMs/ECU Programmer” category to determine the legality of these devices. (<https://ww2.arb.ca.gov/aftermarket-parts-verification>).