

ON BOARD DIAGNOSTICS (OBD II)^{V1.0}



GOOD MAINTENANCE. CLEAN AIR.

Factsheet

December 2017

What is OBD II & how does it work?

On board diagnostic (OBD) systems were developed in the 1980s by vehicle manufacturers to help technicians diagnose and service the computerized engine management systems of modern vehicles. A new generation of these systems, OBD II, is present on 1996 and newer vehicles.

OBD II monitors the engine management system and can detect a malfunction or deterioration of the system components usually well before the driver becomes aware of the problem through a decrease in performance or mechanical damage. When a problem is detected, the OBD II system turns on a dashboard warning light to alert the driver of the need to have the vehicle checked by a repair technician.

What does this have to do with air pollution?

Motor vehicles are the largest source of toxic and ozone-forming air pollutants in Vermont. Modern vehicles are getting cleaner due to newer engine management technology and emission control components - but the emissions are only low when all these systems are in proper working order. When an engine is not running as efficiently as possible, performance is lost, fuel is wasted, and air pollutants increase. OBD II can detect problems that may not be otherwise noticeable and alert the driver to the need for potential repair. This allows vehicles to be properly serviced before emissions become a problem, and before more serious and expensive problems develop.

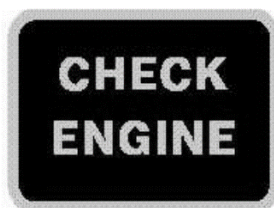
How does OBD II help consumers?

OBD II systems alert drivers when something in the engine management or emission control system begins to deteriorate or fails. Early diagnosis followed by timely repair can often prevent more costly repairs. For example, a poorly performing spark plug can cause the engine to misfire, a condition sometimes unnoticed by the driver. This engine misfire can, in turn, quickly degrade the performance of the catalytic converter. With OBD II detection of the engine misfire, the driver would be faced with a relatively inexpensive spark plug repair. However, without OBD II detection, the driver could be faced with an expensive catalytic converter repair in addition to the spark plug repair.

A vehicle identified by the OBD II system as having a problem may be running inefficiently - resulting in poor fuel economy and vehicle performance while shortening the life of the engine. OBD II systems provide more information than ever before to help auto technicians diagnose and properly repair vehicles during their first visit to the repair shop, saving time and money for consumers.

How does the driver know there's a problem?

When the OBD II system determines that a problem exists, a corresponding "Diagnostic Trouble Code" is stored in the computer memory and a dashboard light (examples shown below) is illuminated to alert the driver that a problem has been detected and vehicle service is needed. By law this dashboard light can only be used to indicate an actual problem. It cannot be used for example, as a reminder for regularly scheduled maintenance.



By paying attention to your vehicle's check engine light, you'll help everyone breathe easier.

For More Info:

Visit the Vermont Air Quality & Climate Division website:

<http://dec.vermont.gov/air-quality/mobile-sources/vehicle-inspections>

WARRANTY

Depending on the model year and mileage of your vehicle, emissions system repairs may be covered by the vehicle manufacturer.

Vermont law requires that a vehicle's entire emissions control system be warranted for a minimum of 3 years or 50,000 miles.

Warranty coverage for the more expensive emissions control components is extended to at least 7 years or 70,000 miles, and the catalytic converter is covered up to 8 years or 80,000 miles.

Some vehicles' emissions control systems are warranted up to 15 years or 150,000 miles!

Be sure to check your owner's manual or warranty booklet!

For more information on warranty coverage visit:

<http://dec.vermont.gov/sites/dec/files/aqc/mobile-sources/documents/Warranty.pdf>

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Check Engine light illuminated on dashboard alerting driver

What's next?

At the repair shop, a service technician can quickly retrieve the stored diagnostic trouble codes from the computer memory using a computer "Scan Tool". Using this information, the technician can more quickly and accurately identify the problem and make the proper repair.

How can the dashboard light be turned off?

After fixing the problem, the service technician will turn off the dashboard light. There are also situations under which the vehicle's OBD II system can turn off the light automatically if the conditions that caused a problem are no longer present. As a result, drivers may see the light turn on and then turn off. For example, if the gas cap is not properly tightened after refueling, the OBD II system can detect the vapor leak due to the cap not being completely tightened. If the gas cap is subsequently tightened, the light should turn off within a few days. This is not an indication of a faulty OBD II system. In this example, the OBD II system properly identified the problem and alerted the driver by illuminating the dash board light.

Can anyone service an OBD II related problem?

Only qualified, trained technicians equipped with the appropriate diagnostic and repair equipment should conduct OBD II related service. With the population of modern technology cars growing, all dealerships and independent repair shops should have qualified personnel for this service. Vehicle owners should ask at their service facility if the technicians have received proper training and have access to the necessary equipment to properly service OBD II equipped vehicles.

Will aftermarket parts work with OBD II?

Most aftermarket parts should work with OBD II systems. It is the responsibility of aftermarket parts manufacturers to ensure that their parts work properly with the vehicle for which they are designed. Aftermarket parts manufacturers who do a thorough job of replicating original equipment manufacturer parts and those who carefully develop specialty parts will be able to produce parts that work with the OBD II system.