ADEQ Arizona Department of Environmental Quality

FACT SHEET

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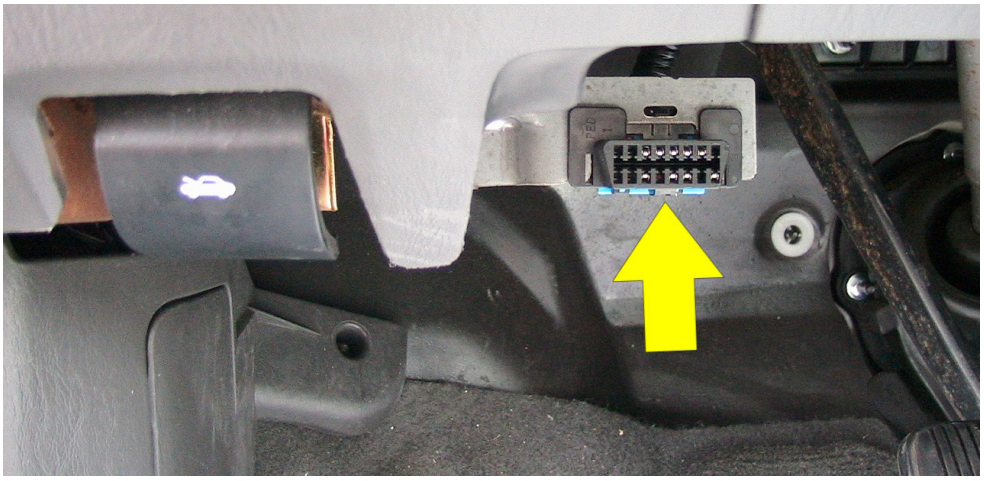
On-Board Diagnostics (OBD) For Vehicles – September 2014

What is OBD and how does it work?

On-Board Diagnostic systems (OBD) were developed in the 1980s to help technicians diagnose and service the computerized engine systems of modern vehicles. A new generation of these systems is found in 1996 model and newer vehicles. These new systems, regardless of the type of vehicles, now monitor the same components, use the same computer "language" and have the same criteria for evaluating the systems and for indicating the problems to the driver and the repair technician.



Arrow points to OBD connector under dashboard.

The OBD system provides drivers with an early warning of malfunctions through a dashboard "Check Engine" light (also known as a Malfunction Indicator Light or MIL). This early warning light not only helps protect the environment, and helps consumers, by identifying minor problems before they become major repair bills.

How does ADEQ use OBD?

When it is time for a vehicle equipped with OBD to be tested for emissions, the technician at the test facility simply connects a cable or remote wireless connection to the vehicle's computer connector. The vehicle connector is usually found under the dash and is known as the DLC (Diagnostic Link Connector). Information stored in the vehicle computer is reported to the emissions-test computer and analyzed. The process is very quick and the report can be given to the technician if necessary to help repair the vehicle.

Why does OBD testing replace tailpipe testing on newer vehicles?

The OBD II system is required in 1996 and newer vehicles by federal law. The system consists of computer(s) and sensors built into the vehicle to monitor emission systems. While the tailpipe test looks at the vehicle exhaust to determine if the vehicle is running efficiently, OBD looks for broken or malfunctioning components which are causing or will cause emissions failure if not repaired. OBD often identifies failing components long before tailpipe emissions would fail. This, in turn, often allows for repair at a much lower cost than a malfunctioning component that damages the engine or catalytic converter.

How does the driver know if there is a problem?

When the OBD system determines that a problem exists, a corresponding "Diagnostic Trouble Code" is stored in the computer memory. The computer also illuminates the dashboard "Check Engine" light, informing the driver that a problem exists, and that service is needed. If the light is flashing, the problem is serious and needs immediate attention.

What if the MIL light comes on and then goes off?

As the OBD system checks components, it may encounter a system or component that is out of tolerance. If this happens, the MIL light will be illuminated. If the OBD system later finds the system to be in tolerance, it will (over a period of time) turn the lamp off. This does not indicate a problem with the OBD system. Your repair technician can perform a specific test to determine if the system is working properly.

Can the "Check Engine" light be turned off?

When the engine service is performed, the technician will turn off the "Check Engine" light. There are also situations when the vehicle computer will turn off the light. If the OBD system scans the component three consecutive times or more, and no longer detects the problem, the light will turn off automatically. For example, if the gas cap is not properly tightened, the light may go on. If subsequent fueling causes the cap to be properly tightened, the light will go out in a few days.

What does "Not Ready" mean?

Your vehicle's computer reviews the status of the emissions systems within the vehicle. After most repairs, or if the battery is disconnected or replaced, the status of all systems will be "not ready" until the vehicle is operated long enough to reset the monitors. The vehicle should

be operated after service for as long as a week in order to reset the status to "Ready." If too many status monitors are "Not Ready" a vehicle will be rejected from the test.

Is the OBD repair covered by warranty?

Warranty coverage varies, depending on the specific failure. However, the federal Clean Air Act requires that major emissions control components such as the catalytic converter be warranted for eight years or 80,000 miles and most emissions-control components are covered for at least two years or 24,000 miles. Consult your warranty or dealer.

What if the "Check Engine" light is disconnected?

Some people mistakenly disconnect the "Check Engine" light since they cannot detect any problems with vehicle operation. The light is provided to alert drivers to potential component failure. Proper repair will save both time and money and reduce the chance of emissions-test failure. The OBD system is required on all 1996 and newer light-duty vehicles.

When the MIL light is disconnected, the vehicle cannot pass emissions testing, is no longer protected by warranty, and is in violation of state and federal laws.

Who can perform OBD repairs?

Anyone may do the repairs necessary for OBD emissions failures. However, it is necessary to have a diagnostic tool known as a "Scan Tool" to properly query the onboard computer and to verify that the repairs have been successful and the monitors reset. We suggest that only a qualified repair technician equipped with the necessary scan tool and training perform emission related repairs on OBD-equipped vehicles.

Do repairs cost more because of OBD?

Because OBD serves as an early warning system for the vehicle owner, repairs often cost less than engine repair or a new catalytic converter.

Quite often repairs due to the "Check Engine" light are limited to service or replacement of an individual component.

Where can I get more information?

Go to: *www.myazcar.com* for more information, to find an inspection station, repair facility, test fees, exemptions and much more.

ADEQ has an On-Board Diagnostics (OBD) informational brochure and an On-Board Diagnostics (OBD) Readiness Monitors fact sheet that are also available. They can be found on the ADEQ Web site *www.azdeq.gov*, click on the heading "Brochures & Fact Sheets."

For vehicle specific information, or for information not covered in the above resources you may contact Vehicle Emissions Inspection Program staff in Phoenix at 10210 N 23rd Avenue, (602) 944-0383 or 4949 E. Madison Street, (602) 275-1144 or in Tucson at 3931 N. Business Center Drive, (520) 887-5191.