

OBD – diagnostic system



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1. Basics of OBD

On-Board Diagnostics, or OBD, in an automotive context, is a generic term referring to a vehicle's self-diagnostic and reporting capability. OBD systems give the vehicle owner or a repair technician access to state of health information for various vehicle sub-systems. Early instances of OBD would simply illuminate a malfunction indicator light, or MIL, if a problem was detected—but would not provide any information as to the nature of the problem. Modern OBD implementations use a standardized digital communications port to provide realtime data in addition to a standardized series of diagnostic trouble codes, or DTCs, which allow one to rapidly identify and remedy malfunctions within the vehicle.



OBD monitors the components that make up the emission system and key engine components. It can usually detect a malfunction or deterioration of these components before the driver becomes aware of the problem. When a problem that could cause a substantial increase in air emissions is detected, the OBD system turns on a dashboard warning light to alert the driver of the need to have the vehicle checked by a repair technician.

Most notably, this includes

- Enhanced oxygen sensor diagnostics
- Enhanced fuel trim diagnostics
- Engine misfire detection
- Catalyst efficiency monitor
- EGR flow monitor

The basic assumptions of the OBD II diagnostic system include:

- Control all devices which influence the final emissions of the vehicle;
- Exhaust catalytic protection
- Warning of fault
- Errors memory storage
- Standardization of : diagnostic trouble codes, serial data stream

2. Experiment description

On the figure (fig. 1) showed diagnostic device which we use to identify faults in the vehicle. In first step we have to find OBD system socket in vehicle and connects plug in right way.



Fig. 1. Dominator Max – Auto Skaner

The goal of this laboratory is found faults in vehicle and describe what kind of error it is.