

OBD II – exhaust gas monitoring system with extra functions

In 1995, Porsche introduced the second generation of on-board diagnostics with OBD II. The system became the basis for monitoring, error correction and diagnostics for the complex exhaust and fuel systems.

When Porsche presented the new 911 Turbo from the 993 generation in March 1995, it was not only the power of 300 kilowatts (408 horsepower) that set new standards: The six-cylinder engine also offered the highlight of the new US exhaust monitoring system OBD II. This enabled early detection of errors or defects in the exhaust and fuel system. At the same time, Porsche had ensured that the exhaust quality would be consistently high by also fitting the twin-turbo engine with air flow control in the intake tract, two metal catalysts and four lambda probes. The extensive measures to reduce pollutants had a major impact in the 911 Turbo: To the surprise of industry experts, the turbo engine emerged as the world's lowest-emission series-produced automotive drive.

This meant that Porsche had more than achieved what the OBD II was intended to do. OBD stands for on-board diagnostics and II indicates the second development stage. The self-monitoring system originated from regulations in California. To reduce air pollution in the greater Los Angeles and San Francisco areas, the US state introduced stricter emissions limits in 1988 that required continual monitoring through an OBD system. In 1994, this rule was extended to cover the entire USA. Two years later, the first phase was replaced by tighter exhaust limits, monitored by OBD II systems.

From the 1996 model year, Porsche began installing OBD II in every new model. The diagnostic system became mandatory in Europe in 2001, albeit with partially different requirements. In the same year, the Motronic system of the new 911 Carrera 4 from the 996 generation took on a central function for exhaust gas monitoring using the on-board diagnostics. If the OBD registered a malfunction in the engine that was relevant to the exhaust gas, this would be immediately forwarded to the Motronic. The error message would then be saved here, an emergency program would be activated if necessary, and an visual warning signal would be simultaneously triggered in the instrument cluster of the dashboard. In the workshop, the message could be read with a diagnostic unit, which enabled the source of the error to be accurately identified. Porsche continued to develop the OBD II interface in the following years. The monitoring system was adapted to meet stricter requirements and a number of additional diagnostics functions were added.