

[مشترك, البرمجيات والتشخيص]

Global OBDII, Pete Meier & Jerry Truglia

<https://www.bekomcar.com/ar/tutorial/pdf/95/>

⚠ 각 차량별로 동일한 OBD2 코드이라도 해석에는 차이가 있을 수 있기때문에 꼭 각 자동차별 특징을 감안해야 한다. 엔진 및 배기가스등 일반적인 엔진에 관해서는 벤더사 EOBD보다는 먼저 글로벌 OBD2를 참조하도록 한다.

아래 OBDII모드 설명 테이블은 각 작동 모드(진단 서비스)의 목적과 이를 포함하는 표준에 대해 설명합니다. 진단 서비스를 정의하는 표준(SAE 및 ISO)이 달라도 내용은 유사하며 SAE 표준 이후에 ISO 표준이 적용됩니다. 1:01



Youtube: <https://www.youtube.com/watch?v=hElvhCyZjOg> عنوان الفيديو على

Global OBDII, Pete Meier (Motor Age) & Jerry Truglia (TST / ATTS)

1. Jerry, 'You suck light' The importance of Monitors. J, Powertrain & transmission, all covered by generic OBD2 with 10 Modes. Normally, OBD2 is more suitable than enhanced mode. What technicians want were given to EPA, and such the result is the OBD2

PIBs, parameter identification. OBD started in 1980, OBD1 in 1988, 1994 with experiments and OBD2 in 1996. And 1998 in Canada.

4. Freeze frame, best friend evidence. Enabling criteria vs code setting criteria. How manufacturers use code setting criteria differently. Certain temperature? rpm? Alldata.com, prodemand.com, motorlogic.com provide such materials.

P, Code descriptions may be the same but manufacturers could have different understanding of such. So, do ensure to refer to manufacturerer specific interpretation. After all, it is the ECM that rocks.

7. J, Test but not guess. Pierre? she is an exclusive BMW person. J, Pending codes. What is pending code? Mode6 is like quizzes, if fails, then goes to Pending codes, if fails twice, then goes to DTC. DTC from O2, PCSV EGR? Pending codes matter.

J, All sensors are the messengers, processed, then go to actuators (solenoid, IAC motors, etc.)

OBD2 Modes Descriptions from Motor Age & TST "Diagnosing Driveability with Global OBD II" - YouTube

J, 01. Current PID Data, actual data truly representing the status vs. enhanced 's substitute value, calculated value.

J, 02. Freeze Frame Data. Some could offer multiple freeze frame data. P, just do NOT clear the DTCs. J, when cleared, clear that out Mode6 data.

J, 03. DTCs (Diagnostic Trouble Codes) For example, P0171 Toyota with intake gasket issue, what temperature the car is. When in cold, speed, etc, this could be overwritten by P0300.

J, 04 Clear DTCs (Clears Everything EXCEPT KAM). Keep Alive Memory (KAM), Manufacturer may or may not allow purging. Ford, P2098, Lean Bank2 Sensor 2 with +21% Fuel Trim. Honda/Acura misfires? what did not do? Did not clear KAM, reset crank setting, crank KAP corelation. So, KAM and Crank should be set (needs clarification). Comprehensive component monitor - almost all of sensors.

J, 05. O2 Sensor Data (Only Non CAN SYSTEM). P0420, just do NOT replace the cat. Look into the O2 sensors first. P, what ECM is doing before setting the codes. Code criteria matters, look into this first.

J, 06, Most Other Quiz/ Test Results. Including O2 sensor. Pre CAN, Ford misfire monitor on \$06 Mode, no CEL on. Ford misfire Mode6, for more informatin. BMW M6 2014, ISTA and autologic, misfire could not be found. But on \$06 Mode revealed misfire.

7. J, 07. Pending DTCs.

J, 88. Bi-Directional Control For Some EVAP Vent Solenoids. VANOS and more bi-directional features wanted. Thermostat not fast enough to heat up to operating temperature. Time to temperature, graph up and down slope, NTC used. It affects transmission as well.

J, 99. Vehicle Information (VIN/Calibration on most vehicles). LS (Lock Smith) License required for VIN modification. Stringent because of security. Q7 Audio, security clearance from VW group and LS ID. This is programming, NOT coding. Calibration, Nissan Maxima P0130 2011~2013, new MAF sensor, you need license ! That is weird.

J, 0A0 Permanent DTCs/ Cleared DTCs. Would stay in there, till the criteria will have been met. It would disappear.

OBD2 Protocols

1. PWM - Pulse Width Modulated
2. VPW - Variable Pulse Width
3. ISO - International Standard Organization
4. KWP - Key Word Protocol
5. SKWP - Slow Key Word Protocol
6. CAN - Controller Area Network

On Vehicle Scan Tool Usage

1. eSCAN. This is the one used by Bernie Thompson. Barometric sensor matters too. Monitors were not in OBD1 but in OBD2, these are like working cops monitoring the status to prevent cheating behaviour. It is self checking routine to monitor emission control system. It is the self checking system. Three Monitors include a) misfire, b) fuel, c) comprehensive components. They are ready to run.

Calculated load among all PIDs, if enough air entering the motor, clogged CAT or exhaust? When punching 90%, then good !

Fuel trim. MAP is 29, normal. J, write this down, Toyota, O2 sensor 0.68mv or so, Jack Hyler (farther of OBD2). What are all these crazy connectors? So the OBD2 came along.

OBD2 10 Modes Explained Briefly

\$01. 현재상태의 배기가스 관련 데이터 파악. 아날로그 & 디지털 입,출력 과 시스템상태 정보를 파악 가능함

\$02. 고장코드 발생당시의 상황을 알 수 있는 정보를 비휘발성 저장장치에 저장하여 제공하는 기능

3. \$03. 외부측정 테스트 장비로 확인된 모든 배기가스 관련된 고장코드 확인가능

4. \$04.외부 스캔툴이나 장비로 저장된 배기가스 관련 고장코드를 삭제하는 기능
 \$05.산소센서 (Lamda) 테스트결과를 제공함.CAN통신에는 제공되지 않지만 이 모든 기능은 \$06에
 서 제공됨
 \$06.특정 콤포넌트 혹은 시스템의 진단모니터링 결과를 제공한다. 이 기능은 상시모니터링 (실화등) 과
 비 상시모니터링 (촉매등) 으로 나누어진다.
 \$07. 배기가스 컴포넌트/시스템 관련 현재 혹은 마지막 사이클의 펜딩 고장코드를 외부의 스캔툴이나
 테스트 장비에게 제공한다.
8. \$08. 외부의 스캔툴이나 측정장비를 활용하여 온보드 시스템 컴포넌트를 작동시킬수 있다
9. \$09.외부의 스캔툴 및 측정장비로 차량정보를 파악할 수 있다.
- \$0A10.기가스와 관련하여 확정된 영구적 고장코드 정보를 파악할 수 있다. 이러한 확정된 영구적 고
 장코드는 실제로 문제가 없는것이 확인되어야 삭제가 가능하다.

مراجع

1. <https://x-engineer.org/on-board-diagnostics-obd-modes-operation-diagnostic-services/>
2. <https://alldata.com>
3. <https://prodemand.com>
4. <https://motorlogic.com> (system description makes very good sense, how things work matters for testing purpose)

Comments

1. تشخيصات السيارات ، OBD2 ، أساسيات 101 - DTC
2. تحقق من ضوء المحرك (CEL) على لوحة القيادة الخاصة بك
3. الحالة الصحية لمستشعر الأكسجين Bank1 Sensor1
4. Bank1 (DTC) رمز مشكلة التشخيص الهزيل لنظام ، P0171
5. ما هي مستشعرات O2 وكم عددها؟
6. فهم أساسيات أجهزة التخزين المستخدمة في السيارات
7. STFT (단기연료보정값) 과 LTFT(장기연료보정값) 기본 이해하기
8. 산소센서 전체적인 배우기
9. 차량떨림 과 간헐적인 경고등 발생
10. P06A6 Sensor Reference Voltage A Circuit// 5V Reference circuit

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جميع السيارات مختلفة , لذا يرجى قراءة دليل الخدمة الخاص بمركبتك قبل أي أعمال إصلاح. لا تتحمل bekomcar أي **تنصل!** مسؤولية عن تلف الممتلكات و / أو الإصابة التي تحدث بشكل مباشر و / أو غير مباشر نتيجة لأي من المعلومات الواردة في الموقع. استخدام هذه المعلومات على مسؤوليتك الخاصة.