

# Obd Ii Pid Database

## Mandy Concepcion

**OBD II Repair Strategies** Mandy Concepcion, In the early part of the 21st century, we find our lives intertwined with a maze of technological wonders. From cell-phones to personal computers, no human being today can escape it. Automobiles are no exception to this rule. With the ever changing emission laws of today, the one constant in the automotive industry is that things always change and will continue to do so. OBD II was designed from the beginning to do so as well. Late model vehicle systems are much more demanding, in both the amount of technology they possess and in the knowledge necessary to repair them. This work was designed to just that, a step-by step diagnostic approach to OBD II systems. It is also written with the State Inspections in mind. This is in direct response to the increasing adoption of OBD II inspections by most States throughout the country. OBD II repair doesn't have to be difficult or cumbersome and knowledge is the key to successful OBD II diagnostics and repair. About the Author Mandy Concepcion has worked in the automotive field for over 21 years. He holds a Degree in Applied Electronics Engineering as well as an ASE Master & L1 certification. For the past 16 years he has been exclusively involved in the diagnosis of all the different electronic systems found in today's vehicles. It is here where he draws extensive practical knowledge from his experience and hopes to convey it in his books. Mandy also designs and builds his own diagnostic equipment, DVD-Videos and repair software. Edition 4.0, Table of Contents, Copyright 2004, 2011, All rights reserved

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**Automotive Scan Tool PID Diagnostics** Mandy Concepcion, 2011-10-06 Automotive Scan Tool PID Diagnostics (Diagnostics Strategies of Modern Automotive Systems ) By Mandy Concepcion In this section, the different techniques of scan tool parameter (PID) analysis will be exposed. Techniques involving PID analysis are quickly catching on, due to their speed and accuracy. By properly analyzing the different scanner PIDs, the technician can arrive at the source of the problem much faster and accurately. These procedures give rise to the new term "driver seat diagnostics", since most of the preliminary diagnostic work is done through the scanner. However, these techniques will in no way replace the final manual tests that are a part of every diagnostic path. They are simply geared to point the technician in the right direction. Table of Contents INTRODUCTION (Introduction to scan tool diagnostics and the relevance of using PIDs or scanner parameter to perform the first leg of all diagnostics.) - Theory of Operation Behind the Different PIDs (Describes CARB, the difference between generic and enhanced PIDs, the FTP) - OBD II Generic PIDs (PID calculated and actual values, calculated data relationships, base injection timing, ECM value substitution) - OBD I & II General PID analysis (erasing code-or not, recording, analyzing and pinpoint tests, separating PIDs into groups) - Fuel Delivery Fault Detection (fuel delivery issues, intake air temp. sensor, BARO sensor, Engine LOAD, RPM PID, Short-Term Fuel Trims, Long-Term Fuel Trims, 60% of check engine light issues, block learn/integrators, Example 1: injector fault, Example 2: intake gasket issues, fuel status, ignition timing, MAP/MAF, TPS, O2 sensor, IAC, Closed Throttle, injector pulse width, voltage power, injector duty cycle, fuel trim cell) - Test #1 (Determining an engine's fuel Consumption (rich-lean operation, duty-cycle to fuel trim relationship, O2 sensor to fuel trim relation, FT and vacuum leaks, ignition timing and idle control, test conclusion) - Test # 2 (Misfire Detection Strategy, EGR, Ignition and Mechanical misfires) (misfires and OBD2, scanner misfire detection - a time saver, OBD2 40 and 80 cycle misfire, ignition, injector and EGR density misfire, coil-on-plug, misfires and O2 sensor, lean O2 & Secondary misfire, O2 sensor & injector misfires, leaky injector, EGR and the MAP, Type A, B, C misfires, test conclusion) - Test # 3 (Air/Fuel Ratio Faults) (air-fuel imbalance, MAF and post O2 sensors, open-closed-loop, fuel enable, HC & CO relation to AF issues, test conclusion) - Test # 4 (BARO, MAP & MAF PID analysis) (MAP & valve timing faults, ECM behavior, fuel delivery or duty cycle test, volumetric efficiency, , test conclusion) - Test # 5 (Clogged exhaust) (clogged catalytic converter detection,

TPS, MAF and converters, idle and WOT or wide open throttle values, vacuum readings, MAP to WOT charts analysis, engine and MAP vacuum, test conclusion) - Test # 6 (EGR Fault Detection) (EGR and MAP values, ECM reaction to EGR issues, EGR temp sensor, DPFE sensor, EGR and O2-MAP and lift position sensor, EGR and engine pre-loading, EGR and the ECM erroneous high LOAD issues, test conclusion) - Test # 7 (O2 Sensor Heater) (O2 heaters and why?, tough to check O2 heater issues, O2 heater effect on signal output, O2 heater bias voltage, engine off and O2 changing value, test conclusion) - Test # 8 (Resetting Fuel Trims) (resetting injection pulse corrections, long-term and short-term fuel trims, learn condition, Lambda, case study on fuel trims, FT resetting according to manufacturer, test conclusion) - Test # 9 (Engine Cranking Vacuum Test) (MAP/MAF cranking vacuum, vacuum to PID analysis, vacuum leaks, gauge-PID test, sources of leaks, cranking values, test conclusion)

How To Use Automotive Diagnostic Scanners Tracy Martin, 2015-08-01 From hand-held, dedicated units to software that turns PCs and Palm Pilots into powerful diagnostic scanners, auto enthusiasts today have a variety of methods available to make use of on-board diagnostic systems. And not only can they be used to diagnose operational faults, they can be used as low-budget data acquisition systems and dynamometers, so you can maximize your vehicle's performance. Beginning with why scanners are needed to work effectively on modern cars, this book teaches you how to choose the right scanner for your application, how to use the tool, and what each code means. How To Use Automotive Diagnostic Scanners is illustrated with photos and diagrams to help you understand OBD-I and OBD-II systems (including CAN) and the scanners that read the information they record. Also included is a comprehensive list of codes and what they mean. From catalytic converters and O2 sensors to emissions and automotive detective work, this is the complete reference for keeping your vehicle EPA-compliant and on the road!

Automotive Engine Performance Nicholas Goodnight, Kirk VanGelder, 2019-02-20 Automotive Engine Performance, published as part of the CDX Master Automotive Technician Series, provides technicians in training with a detailed overview of modern engine technologies and diagnostic strategies. Taking a "strategy-based diagnostic" approach, it helps students master the skills needed to diagnose and resolve customer concerns correctly on the first attempt. Students will gain an understanding of current diagnostic tools and advanced performance systems as they prepare to service the engines of tomorrow.

**Computerized Engine Control** Peter King, Dick H. King, 1998 Computerized Engine Controls, 5E: 1998 Update to the Fifth Edition explores the many ways in which computers affect the driveability, performance, fuel economy and emissions quality of today's vehicles. By referencing the fundamentals of electricity and computers, this text illustrates how to systematically apply the information to products of virtually all automobile manufacturers. Each chapter contains real-world examples of applications of the information presented, selected lists of technical terms introduced, diagnostic exercises and

review questions.

**Phase III Research and Development of an E85 Alternative Fuel Fleet Monitoring System** Michael Todd, Matthew Barth, 2015

*Data Acquisition from Light-Duty Vehicles Using OBD and CAN* Eric Walter, Richard Walter, 2018-11-15 Modern vehicles have multiple electronic control units (ECU) to control various subsystems such as the engine, brakes, steering, air conditioning, and infotainment. These ECUs are networked together to share information directly with each other. This in-vehicle network provides a data opportunity for improved maintenance, fleet management, warranty and legal issues, reliability, and accident reconstruction. *Data Acquisition from LD Vehicles Using OBD and CAN* is a guide for the reader on how to acquire and correctly interpret data from the in-vehicle network of light-duty (LD) vehicles. The reader will learn how to determine what data is available on the vehicle's network, acquire messages and convert them to scaled engineering parameters, apply more than 25 applicable standards, and understand 15 important test modes. Topics featured in this book include: • Calculated fuel economy • Duty cycle analysis • Capturing intermittent faults Written by two specialists in this field, Richard P. Walter and Eric P. Walter of HEM Data, the book provides a unique roadmap for the data acquisition user. The authors give a clear and concise description of the CAN protocol plus a review of all 19 parts of the SAE International J1939 standard family. *Data Acquisition from LD Vehicles Using OBD and CAN* is a must-have reference for product engineers, service technicians fleet managers and all interested in acquiring data effectively from the SAE J1939-equipped vehicles.

OBD-II Repair Strategies Mandy Concepcion, 2011 OBD 2 Repair Strategies (Including State Smog Inspections) In the early part of the 21st century, we find our lives intertwined with a maze of technological wonders. From cell-phones to personal computers, no human being today can escape it. Automobiles are no exception to this rule. With the ever changing emission laws of today, the one constant in the automotive industry is that things always change and will continue to do so. OBD II was designed from the beginning to do so as well. Late model vehicle systems are much more demanding, in both the amount of technology they possess and in the knowledge necessary to repair them. This work was designed to just that, a step-by-step diagnostic approach to OBD II systems. It is also written with the State Inspections in mind. This is in direct response to the increasing adoption of OBD II inspections by most States throughout the country. OBD II repairs don't have to be difficult or cumbersome and knowledge is the key to successful OBD II diagnostics and repair. About the Author Mandy Concepcion has worked in the automotive field for over 32 years. He holds a Bachelor's Degree in Electronics Engineering as well as an ASE Master & L1 certification. For the past 16 years he has been exclusively involved in the diagnosis of all the different electronic systems found in today's vehicles. It is here where he draws extensive practical knowledge from his experience and hopes to convey it in his books. Mandy also designs and builds his own diagnostic equipment, DVD-Videos

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*OBD 2 Automotive Repair Strategies* Mandy Concepcion,2011-06-14

**How to Use the Snap-On Modis** Mandy Concepcion,2012-05-01

How to Use The Snap-On MODIS With the ever increasing electronic content in today's vehicles, the scan tool has become the tool of choice to look into the ECM or module functions. The scanner is the only window into what the different modules are doing. One thing's to use an oscilloscope or GMM, but to know what the computer is actually interpreting, your only choice is this piece of equipment. This book is different than other book on the MODIS. This book actually teaches you how to use the equipment and interpret the PID datastream. This book also borrows from some of our other publications, but geared towards the Modis. We also expose the use of other diagnostic equipment and how to use them together. In today's automotive repair shop the technician has to be able to use the equipment and draw relational characteristics between the signal. It is from these relations that the tech arrives to the true repair. It's not just using the Modis. It's using the Modis and see if the scope and multi-meter readings also support the repair conclusion. Snap-On has over the years developed into a leader in diagnostic equipment. With that in mind, lets learn to use the MODIS to its fullest and become a profitable, top technician. Remember, learning to use your

equipment will also teach you a great deal of diagnostics. Table of Contents • Basic Features • Modular Diagnostic System • BUTTON ARRANGEMENT DESCRIPTION • UPDATING THE MODIS SCANNER • GRAPHING THE PIDs • SAVING YOUR SCREEN SNAP-SHOTS AND BUILDING YOUR OWN LIBRARY • A WORD ABOUT THE BATTERY CARE and MAINTENANCE • GENERAL SCANNER FUNCTION & PID ANALYSIS • THEORY OF OPERATION BEHIND THE DIFFERENT PARAMETERS (PIDs) • OBD I and OBD II, and general PID analysis • FUEL DELIVERY FAULT DETECTION • TEST 1 - Misfire detection strategy (EGR, ignition and mechanical mis-fires) • TEST 2 - A/F RATIO FAULTS • TEST 3 - CLOGGED EXHAUST • The MODIS Troubleshooter • GRAPHING THE PIDs • THE SNAP-SHOT FEATURE • OBD-2 Operability • Using the MODIS in conjunction with other types of equipment (Test-Light, Amp-Probes, GMM, DVOM, Oscilloscope)

#### **OBD II** R. Bosch, 1999

*OBD-II Access Using a CAN to USB Converter from Kvaser* Alberto Guiotto, 2012 This project aims to develop an application for PC that allows to connect, analyze and show data present on the OBD (On Board Diagnostic) CAN bus based system of any vehicle built since 2008. The final goal is to run this application connected with a real vehicle, equipped with a concrete OBD-II system. It has been used an emulator from OZEN ELEKTRONIK to simulate the OBD system, combined with an adapter cable from KVASER and a USB - CAN converter from the same brand. The programming language chosen to develop the application was Visual Basic .NET. In this thesis there is an initial introduction, with the objective and the goal of the project. After that, the history of the OBD and the state of art are explained; this chapter in particular wants to show the actual market supply, listing some examples of products already existent with a short description for each one. The text continues with the characterization of the instrumentation utilized and the specifications followed. Furthermore, there is an illustration about the structure of the application and the forms that constitute the latter. The results chapter speaks about the CAN messages exchanged between the device and the PC, with the explanation of the meaning of each byte of these messages. Finally, there is a discussion about economic costs and the environmental impact of the project. In the conclusions, a set of nonconformity of the device is listed, with the solutions adopted to solve each problem.

**OBD Traceability Matrix** Truck Bus Control and Communications Network Committee, 2022 This Information Report is intended to supplement the J1939 documents by offering the application of SAE RP J1939 to OBD data communications in a form that can be sorted and searched for easier use. It is NOT intended as a substitute for the actual regulations and standards documents, and any discrepancies between this document and the published documents must be resolved in favor of the published documents. This spreadsheet outlines elements in ARB OBD II and HD OBD requirements and identifies which J1939 SPNs and messages may be used to satisfy the datastream, readiness, in-use ratio, and test results requirements. Both the HD OBD regulation and the California OBD II were updated. The official publication date for both the OBD II regulation and HD OBD regulation updates is October 3, 2019.

## Unveiling the Magic of Words: A Review of "**Obd Ii Pid Database**"

In a world defined by information and interconnectivity, the enchanting power of words has acquired unparalleled significance. Their capability to kindle emotions, provoke contemplation, and ignite transformative change is truly awe-inspiring. Enter the realm of "**Obd Ii Pid Database**," a mesmerizing literary masterpiece penned by way of a distinguished author, guiding readers on a profound journey to unravel the secrets and potential hidden within every word. In this critique, we shall delve into the book's central themes, examine its distinctive writing style, and assess its profound impact on the souls of its readers.

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