Obd 2 Scanner Pid Repair

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 posses 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 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 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 TABLE OF CONTENTS Section 1 - Basics of OBD II - What is OBD II? - Why do we need it? The Federal Test Procedure (FTP) - Technical aspects of OBD II. (FF, Monitors, Pending & Current Codes, The Drive Cycle, Re-setting Monitors, etc) - The data link connector - Diagnostic Trouble Code implementation - Resetting Monitors - What are Freeze Frames and how are they useful in diagnostics - A word about misfires - Do I need an OEM scanner or can I get by with an aftermarket scan tool? - Generic vs. Enhanced. What's the difference? why do you need to pull-out both codes? - The vehicle failed OBD II-State Inspection, but is passing a 5 gas emissions test. Why is it? - Resetting fuel trims. It's not the same procedure for every system - The Diagnostic Executive or Task Manager. What is it? - Bi-Directional control capabilities are revolutionizing the diagnostic process - Diagnosing EVAP leaks. It doesn't have to be complicated Section 2 - Base-lining the system includes retrieving FF, codes, & monitor status - Freeze Frames information gathering - Monitor status flag - Code Setting Criteria. How and why was the code set? - Freeze Frame and Code Setting Criteria comparison - Dividing the diagnostic process into systems and using the codes to detect system faults - First rule of diagnostics—Know the system you're working on - System by System outlook - Which Monitors are Incomplete. The need to prove each system without having to run a drive cycle by using the scanner, saving time & money - General Idle PID Snap-Shot Section 3 - INTRODUCTION - OBD-2 Generic PID list - OBD I and OBD II, and general PID analysis - FUEL DELIVERY FAULT DETECTION - TEST # 1 - TEST #2 - TEST #3 - TEST #4 - TEST #5 - RUNNING THE MONITORS IN YOUR MIND USING THE SCANNER Section 4 - Putting it all together. - Principles of diagnostics - Basic Scope Testing and Bi-Directional Control - No-Start, General Diagnostics - The correct decision making process to a sound repair - Don't assume anything or get caught in a particular mind set - Taking all the facts into account

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 dutycycle, 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 chats 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)

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 posses 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 and repair software. Edition 4.0, Table of Contents, Copyright 2004, 2011, All rights reserved TABLE OF CONTENTS Section 1 - Basics of OBD II- What is OBD II?- Why do we need it? The Federal Test Procedure (FTP)- Technical aspects of OBD II. (FF, Monitors, Pending & Current Codes, The Drive Cycle, Re-setting Monitors, etc)- The data link connector- Diagnostic Trouble Code implementation- Resetting Monitors- What are Freeze Frames and how are they useful in diagnostics- A word about misfires- Do I need an OEM scanner or can I get by with an aftermarket scan tool?- Generic vs. Enhanced. What's the difference? why do you need to pull-out both codes?-

The vehicle failed OBD II-State Inspection, but is passing a 5 gas emissions test. Why is it?- Resetting fuel trims. It's not the same procedure for every system- The Diagnostic Executive or Task Manager. What is it?- Bi-Directional control capabilities are revolutionizing the diagnostic process- Diagnosing EVAP leaks. It doesn't have to be complicated Section 2 - Base-lining the system includes retrieving FF, codes, & monitor status- Freeze Frames information gathering- Monitor status flag- Code Setting Criteria. How and why was the code set?- Freeze Frame and Code Setting Criteria comparison- Dividing the diagnostic process into systems and using the codes to detect system faults- First rule of diagnostics-Know the system you're working on- System by System outlook- Which Monitors are Incomplete. The need to prove each system without having to run a drive cycle by using the scanner, saving time & money- General Idle PID Snap-Shot Section 3 - INTRODUCTION- OBD-2 Generic PID list- OBD I and OBD II, and general PID analysis- FUEL DELIVERY FAULT DETECTION- TEST # 1- TEST #2- TEST #3- TEST #4- TEST #5- RUNNING THE MONITORS IN YOUR MIND USING THE SCANNER Section 4 - Putting it all together.- Principles of diagnostics- Basic Scope Testing and Bi-Directional Control- No-Start, General Diagnostics- The correct decision making process to a sound repair- Don't assume anything or get caught in a particular mind set- Taking all the facts into account

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 acquistion 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 Diagnostic Systems Keith McCord,2011 OBD expert, tuner, and author Keith McCord explains system architecture, function, and operation. He shows you how to use a hand-held scanner, connect it to the port connector in the car, and interpret the data. But most importantly, he shows you a practical, analytical, and methodical process for tackling a problem, so you can quickly trace its actual source and fix the root cause and not just the symptom... -- from page 4 of cover.

OBD2 Automotive Code Encyclopedia and Cross Reference Guide Mandy Concepcion, Includes pressure/voltage/current volumes, OBD-2 code definitions & code-setting criteria--Cover.

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 func-tions. 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 equip-ment. 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 char-acteristics between the signal. It is from these relations that the tech ar-rives 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 equip-ment. With that in mind, lets learn to use the MODIS to its fullest and be-come a profitable, top technician. Remember, learning to use your equip-ment 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 BULDING 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-I & OBD-II Greg Branish,2023-06-09 Onboard diagnostics (OBD) systems have been an integral part of vehicle design for decades, as OBD-II became mandatory in 1996 for all cars manufactured in the United States. Almost every aspect of the diagnostics system evolved from emissions requirements that were placed on the automotive industry. Manufacturers responded with increasing complexity in the electronic controls and reporting of errors. Fortunately, some commonization followed in the industry, which made the job of a repair technician or do-it-yourself enthusiast slightly easier when working on these challenging systems. Passing emissions testing has become critically important to manufacturers of high-performance parts and installation shops. Both the US Environmental Protection Agency (EPA) and California Air Resources Board (CARB) have assessed massive fines for violations of the Clean Air Act based on information that is available from the vehicle's OBD system. Many states now require vehicles to pass an OBD check to renew the registration, making proper operation even more important to consumers. OBD-I & OBD-II: A Complete Guide to Diagnosis, Repair, & Emissions Compliance is an insider's guide to modern original equipment manufacturer (OEM) diagnostics systems. As a former diagnostics and performance calibration engineer, Greg Banish guides you through critical electronic control unit (ECU) functions that ultimately lead to why the check engine light on the dash is lit. Strategies are provided for how to begin looking for a solution when problems are detected. Listing every imaginable repair is impossible, but this book provides a solid foundation from which to work by explaining the electronic control unit ECU's logic in plain English. Practical examples from the author's experience highlight important lessons that will save hours of frustration and confusion. In addition to repair tips, sound advice is given for those looking to modify their vehicles while maintaining the full functionality of the emissions and diagnostics systems. Modern diagnostics systems can be a blessing or a curse, depending on your level of understanding. This book helps you harness the power of the diagnostics inside the ECU to improve the ability to find and make the right repair the first time. This book shows that by using commonly available electronic tools, the consumer has the power to access a wealth of information about his or her vehicle. It also helps those who are looking to improve performance do so without compromise to the environment or enforcement agencies. Whether you want to repair the vehicle yourself or simply want to possess an understanding of how these systems work while dealing with service professionals, this is the guide you need.

Automotive Computer Network Repair Mandy Concepcion, Automotive Computer Network Repair (Diagnostic Strategies of Modern Automotive Systems) By Mandy Concepcion In this book we will cover the intricacies of automotive inter-module communication systems or networks. The scope of this section will also go beyond the normal needs of an automotive technician. Hence, this will probably be the most difficult part of this series to comprehend. Be patient and open minded. Always give yourself time to absorb the knowledge and do not be discouraged. Special emphasis will be placed on the CAN system (Controller Area Network), since it is now the standard. CAN is one of the 9 OBD-2 protocols. A protocol is an agreement on communications interchange. It is in essence a computer communication language and specifies signaling, wiring, size of cables used, who controls the network and voltage levels. Various protocols were used in the past, some proprietary and some generic such as ISO 9141 and SAE 1850 VPW, but the standard is now the CAN protocol. Virtually all vehicle networks now talk to each other though the CAN protocol. It is now common place to see the seat belt, SRS-Airbag, transmission, ABS-Brakes, engine and radio modules or computer talking

to each other through the network. Ever wondered why your radio volume goes up when you accelerate the vehicle? That's the engine computer or module telling the radio to raise the volume due to a higher RPM and hence higher ambient noise. It is also common to see a non-shifting transmission due to a faulty network and the issue not being related to the transmission at all. Hopefully this book will shed some light on the operation and knowledge needed to tackle automotive networks in today's vehicles...... Enjoy. Table of Contents 1. INTRODUCTION * - Automotive inter-module communication systems or networks * - Asian, Domestics and European Vehicles * - Fully Networked vehicles. 2. THE NEED FOR IN-VEHICLE NETWORKING * - Use of electrical and electronic components * - Networked automotive sensors. * - Sharing of sensor information * - Weight savings and the simpler wiring harnesses * - Networking and modular systems 3. THE NEED FOR PROTOCOLS * - CAN or Controller Area Network communication protocol * - CLASS A - Low speed * - CLASS B - Medium speed * - CLASS C - High speed * - SAE (Society of Automotive Engineers) * - ISO (International Standards Organization) * - What is a Gateway? 4. NETWORKING ESSENTIALS * - the 7-layer ISO/OSI reference model * - PHYSICAL LAYER * - DATA LINK LAYER * - APPLICATION LAYER * - Medium Access * - CARRIER SENSE MULTIPLE ACCESS or CSMA * - Network latency * - The Topology of a network * - The STAR topology * - The BUS topology * - The TREE topology * - The RING topology 5. DIFFERENT COMMUNICATION NETWORK * - The CCD data bus (Chrysler Collision Detection) * - CCD bus ground * - CCD bus bias voltage * - OEM scan tool (DRB III) * - NO TERMINATION message fault * - The PCI bus (Programmable Communications Interface) * - A CSMA/CD media access scheme * - The Header, DATA, CRC, IFR and EOF elements * - DCL (Data Communications Link) * - circuit 914 and 915 * - SCP (J1850) (Standard Corporate Protocol) * - Dual wire twisted pair bus topology * - The ISO 9141 protocol * - The NGS DATA LINK DIAGNOSTICS menu option * - GM (Data Line) UART Serial Communications * - UART data line communications * - GM CLASS 2 data bus * - State of health messages * - The Tech-2 scanner has a dynamic menu configuration * - The Tech-2's PING-ALL-MODULES 6. CAN (Controller Area Network) * - implementation of the CAN protocol * - 11 bit and 29 bit identifyer * - EPA approved for MY 2003 and up * - CAN A, B and C * - MID and PID CAN identifyers * - Master time-keeper-node * - Drive-by-wire systems * - Byteflight, Flexray, and Time-triggered CAN or TTCAN * - The CAN Data-Frame * - The CAN bus-access arbitration * - SOF (start-of-frame) bit * - Control bit * - Arbitration bits * - Data bits * - EOF or end of frame bit

Automotive Engine Performance Nicholas Goodnight,Kirk VanGelder,2019-02-22 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.

Automotive Repair Case Studies ,

Stories from the Road 6 Mandy Concepcion,2012-05-28 Stories from the Road 6 (A Narrative About Modern Automotive Diagnostics An Automotive Case Studies Series By Mandy Concepcion This book, Stories from the Road - Automotive Case Studies is a real work in action about the intricacies of modern automotive diagnostics. It is based on actual real life situations. From this book you may extract real-life lessons, which will help you as an automotive aficionado, DIY mechanic and professional technician. The work is divided into narrated stories representing real-life applications of diagnostic technology, equipment usage, repair techniques and knowledge based information. Here, you'll get input on how to use the automotive scan-tool, OBD-2 ECM/PCM readers, oscilloscope, graphing multi-meter, signal tone injector and many other diagnostic tools. You'll also get deep insights on testing all kinds of sensors and actuators, such as injectors, solenoids, transmission components, motors, fuel pumps, CAM and crank sensors, TPS, MAF, Knock and pretty much every component seen today. All the content is presented on a narrated, story like format to make the knowledge easy and fun to comprehend. With that in mind, enjoy your readings.

Table of contents Stories from the Road 6 - Content * - Looking into an Escalade's Mind A Cadillac Escalade with a strange IAC code. Well it's the IAC inside the MAF sensor. Follow this diagnostic path into the inner depths of automotive diagnostics, from scan tool PID analysis and beyond. See what happened... * - Mysteriously Revving Lincoln LS The electronic throttle control system or drive-by-wire accelerator control is now here to stay. See a complete diagnostic path for this cableless throttle control system. Follow this case from using the scanner on PID analysis, the oscilloscope and then analyzing signal waveforms. Learn from this case... * - Monte Carlo's Nervous Meltdown A vehicle with loss of power, engine stalling and erratic idle surge is exactly what was happening to this Chevy. Was it the MAF sensor, TPS or some other component causing the issue? Was it an idle issue or also seen at higher RPMs? See the entire diagnostic path and also using an array of auto diagnostic equipment. Find out what happened next... * - Nissan Altima's Cross Identity Crisis That's right, a Nissan with what you could call double personality. See how an ingenuous auto repair and diagnostic path was used to get to the issue. Shown with dedicated diagrams and animations to prove the case and present the case to you. Also get the scoop on using the Fox and Hound for electrical diagnostics. * - Nissan Maxima's Burning Bush A surging idle speed issue with a difficult to detect origin. After replacing various parts, the shop ran out of options and called in the expert. See hoe this popular stepper-motor component was inoperable and the diagnostic path to repair. Follow this case from a simple scan to deep ECM diagnostics using various equipment. * - Nissan that Wouldn't Cool Down Yes, a hot Nissan, but to the engine, the climate control system. That's right, this A/C compressor did not want to turn ON, no matter what and it was fully computerized. The auto diagnostic path was not as easy as one would think. In fact this issue proved a high tech diagnostic and tough to detect. see what happened... * - Noisy Neighbor An erratic engine on a Ford Explorer where the TPS and ECM had already been replaced. What could it be? See the whole auto repair path and learn to interpret scan PID graphs, scope waveforms and analyze wiring issue. Get the whole story here... * - BONUS - The AFR or air fuel ratio sensor circuit The newer wide band or A F R O2 sensor solves the narrow sensing problem of the previous Zirconium sensors. These sensors are often called by different names. Learn how they work and how to test them.

Advances in Information Communication Technology and Computing Vishal Goar,Manoj Kuri,Rajesh Kumar,Tomonobu Senjyu,2022-05-09 The book is a collection of best selected research papers presented at the International Conference on Advances in Information Communication Technology and Computing (AICTC 2021), held in Government Engineering College Bikaner, Bikaner, India, during 20–21 December 2021. The book covers ICT-based approaches in the areas of ICT for energy efficiency, life cycle assessment of ICT, green IT, green information systems, environmental informatics, energy informatics, sustainable HCI or Artificial intelli computational sustainability.

Using Computer Science in Automotive Careers Jennifer Culp,2018-12-15 The automotive industry is one of the hottest fields today. Cars, trucks, and even motorcycles are being increasingly run by computers and this book offers readers a captivating look at how vehicles and software can work in tandem. Readers will learn how automobiles have become marvels of modern technology and how coders are now pioneering the world of driverless cars. On a practical level, this book offers a roadmap of where to start if one wants to become a programmer for the automotive industry, including what degrees and certifications to obtain.

How to Use the Snap-On Solus Mandy Concepcion,2012-05-01 How to Use the Snap-On SOLUS 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 SOLUS. 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 Solus. 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 Solus 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 SOLUS 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 General Scan tool function & PID analysis The Troubleshooter Graphing the PIDs Bi-directional Control Snap-shot feature OBD-2 operability Using the SOLUS in conjunction with other types of equipment (Test-Light, Current Probe, GMM, DVOM, Oscilloscope) The SOLUS and the PC. Building a library of known good waveforms

    Vehicle Electronics to Digital Mobility ,2004

    <u>Diagnostic Code Reader for All Vehicles LOG</u> Artbc Lms,2020-01-26 diagnostic code reader for all vehicles log

    Advanced Automotive Engine Performance Michael Klyde,2020-05 Advanced Automotive Engine Performance, published as part of the CDX Master Automotive Technician Series, provides technicians with advanced training in 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 learn how to diagnose engine performance, drivability, and emission systems concerns. Ideal for advanced courses in light vehicle engine performance and for students preparing for ASE L1 certification, Advanced Automotive Engine Performance equips students with the skills necessary to successfully maintain, diagnose, and repair today's gasoline engines--

    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.

    Literature and Best Practices Scan Rob Klausmeier,2002

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Obd 2 Scanner Pid Repair Introduction

In the digital age, access to information has become easier than ever before. The ability to download Obd 2 Scanner Pid Repair has revolutionized the way we consume written content. Whether you are a student looking for course material, an avid reader searching for your next favorite

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