

Honda K20 Engine Build I High Performance Assembly

A guide to what has been the #1 modified import car for the street during the last decade?the Honda engine. This book covers some performance theory basics, then launches into dyno-tested performance parts combinations for each B-series engine. Topics covered include: performance vs. economy; air intakes, manifolds and throttle bodies; tuning; turbocharging; supercharging; and nitrous oxide.

The first book of its kind, How to Rebuild the Honda B-Series Engineshows exactly how to rebuild the ever-popular Honda B-series engine. The book explains variations between the different B-series designations and elaborates upon the features that make this engine family such a tremendous and reliable design. Honda B-series engines are some of the most popular for enthusiasts to swap, and they came in many popular Honda and Acura models over the years, including the Civic, Integra, Accord, Prelude, CRX, del Sol, and even the CR-V. In this special Workbench book, author Jason Siu uses more than 600 photos, charts, and illustrations to give simple step-by-step instructions on disassembly, cleaning, machining tips, pre-assembly fitting, and final assembly. This book gives considerations for both stock and performance rebuilds. It also guides you through both the easy and tricky procedures, showing you how to rebuild your engine and ensure it is working perfectly. Dealing with considerations for all B-series engines-

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foreign and domestic, VTEC and non-VTEC-the book also illustrates many of the wildly vast performance components, accessories, and upgrades available for B-series engines. As with all Workbench titles, this book details and highlights special components, tools, chemicals, and other accessories needed to get the job done right, the first time. Appendices are packed full of valuable reference information, and the book includes a Work-Along-Sheet to help you record vital statistics and measurements along the way. You'll even find tips that will help you save money without compromising top-notch results.

Thoroughly updated and expanded, *Fundamentals of Medium/Heavy Diesel Engines, Second Edition* offers comprehensive coverage of basic concepts and fundamentals, building up to advanced instruction on the latest technology coming to market for medium- and heavy-duty diesel engine systems.

How to Rebuild and Modify High-Performance Manual Transmissions breaks down the disassembly, inspection, modification/upgrade, and rebuilding process into detailed yet easy-to-follow steps consistent with our other Workbench series books. The latest techniques and insider tips are revealed, so an enthusiast can quickly perform a tear-down, identify worn parts, select the best components, and successfully assemble a high-performance transmission. Transmission expert and designer Paul Cangialosi shares his proven rebuilding methods, insight, and 27 years of knowledge in the transmission industry. He guides you through the rebuilding process for most major high-performance

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transmissions, including BorgWarner T10 and super T10, GM/Muncie, Ford Toploader, and Tremec T5. This new edition also contains a complete step-by-step rebuild of the Chrysler A833 transmission.

A comprehensive guide to modifying the D, B and H series Honda and Acura engines.

Building Honda K-Series Engine PerformanceCartech

This book makes powerful Field Programmable Gate Array (FPGA) and reconfigurable technology accessible to software engineers by covering different state-of-the-art high-level synthesis approaches (e.g., OpenCL and several C-to-gates compilers). It introduces FPGA technology, its programming model, and how various applications can be implemented on FPGAs without going through low-level hardware design phases.

Readers will get a realistic sense for problems that are suited for FPGAs and how to implement them from a software designer's point of view. The authors demonstrate that FPGAs and their programming model reflect the needs of stream processing problems much better than traditional CPU or GPU architectures, making them well-suited for a wide variety of systems, from embedded systems performing sensor processing to large setups for Big Data number crunching. This book serves as an invaluable tool for software designers and FPGA design engineers who are interested in high design productivity through behavioural synthesis, domain-specific compilation, and FPGA overlays.

Introduces FPGA technology to software developers by giving an overview of FPGA programming models and design tools, as well as various application examples;

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Provides a holistic analysis of the topic and enables developers to tackle the architectural needs for Big Data processing with FPGAs; Explains the reasons for the energy efficiency and performance benefits of FPGA processing; Provides a user-oriented approach and a sense for where and how to apply FPGA technology. Since its birth as a motorcycle company in 1949, Honda has steadily grown into one of the world's largest automakers and engine manufacturers, as well as one of the most beloved, most profitable, and most consistently innovative multinational corporations. What drives the company that keeps creating and improving award-winning and bestselling models like the Civic, Accord, Odyssey, CR-V, and Pilot? According to Jeffrey Rothfeder, what truly distinguishes Honda from its competitors, especially archrival Toyota, is a deep commitment to a set of unorthodox management tenets. The Honda Way, as insiders call it, is notable for decentralization over corporate control, simplicity over complexity, experimentation over Six Sigma-driven efficiency, and unyielding cynicism toward the status quo and whatever is assumed to be the truth. Those are just a few of the ideas that the company's colorful founder Soichiro Honda embedded in the DNA of his start-up sixty-five years ago. As the first journalist allowed behind Honda's infamously private doors, Rothfeder interviewed dozens of executives, engineers, and frontline employees about Honda's management practices and global strategy. He shows how the company developed and maintained its unmatched culture of innovation, resilience, and flexibility--and how it exported that culture

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to other countries that are strikingly different from Japan, establishing locally controlled operations in each region where it lays down roots.

Honda performance enthusiasts all have one basic question when it comes to making their cars faster: "What parts work, and what parts don't?" The only way to answer that question is to install various parts on a car and test the power output on a dynamometer (dyno). Richard Holdener has done that in High Performance Honda Dyno Tests.

Holdener's extensive testing provides dyno-proven data for all popular Honda performance parts, from air intake systems to exhausts, cams and cylinder heads to nitrous, turbos, and superchargers. There is even a chapter on engine build-ups. In addition, dyno tests on nearly every Honda model, from the single-cam DX to the 2.2L Prelude, are included. Acura models are covered as well, from the 1.8L LS through the GSR and Type R all the way up to exotic NSX. There is no better place to find performance answers than in this book.

The Honda K-Series engine was introduced in 2001, replacing the B-Series as the engine of choice for Honda enthusiasts. These new K-Series engines are the most powerful stock Honda/Acura engines you can get. They featured new technology such as a roller rocker valvetrain, better flowing heads, and advanced variable cam timing technology that made these engines suddenly the thing to have. And that's

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where the engine swappers come in. In *Honda K-Series Engine Swaps*, author Aaron Bonk guides you through all the details, facts, and figures you will need to complete a successful K-Series swap into your older chassis. All the different engine variants are covered, as well as interchangeability, compatibility, which accessories work, wiring and controls operation, drivetrain considerations, and more. While you can still modify your existing B-Series, dollar for dollar, you can't make more power than you can with a Honda K-Series engine. If you have an older chassis and are looking for a serious injection of power and technology, swapping a K-Series engine is a great option. *Honda K-Series Engine Swaps* will tell you everything you need to know.

The Mazda Miata is one of the most popular sports cars on the road today. In production for more than 20 years, the Miata's popularity has grown, and the number of aftermarket components available to the Miata enthusiast has grown, too. This immense selection of parts has made it difficult for many would-be modifiers to choose the proper combination that will help them reach the goals they have set for their two-seaters. Author and Miata expert Keith Tanner has been modifying, repairing, building, and racing Miatas for years, and he will guide you through how to best modify your car to suit your needs, starting with an explanation on how everything works and

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how the various parts will interact. You'll not only learn what upgrades will help you reach your goals, but also how to adjust or modify what you have to make your car work at its best. From autocross to cross-country touring, the Miata can do it all. Keith Tanner tells you how to make it happen!

This book is intended for introducing the fundamen
Smokey Yunick's Power Secrets is a unique milestone from the acknowledged master of no-nonsense engine development. Henry "Smokey" Yunick is a living legend in racing circles, and in this book he explains race-engine preparation in the direct and unrelenting style that is his singular trademark. From carburetors to shop tools, Smokey tells it like it is. This book is a once-in-a-lifetime experience; a classic that you'll enjoy reading again and again.

In Day One, automotive journalist Marty Schorr recalls life on the front line in the classic muscle car era, thrashing brand-new cars that would become collector vehicles. Most muscle-car books celebrate beautifully-restored vehicles surrounded by hard facts; Day One tells the real story from the point-of-view of one of the period's most respected automotive journalists, Marty Schorr. For the first time in print, you'll get a unique perspective on what it was like to actually drive, race, and otherwise thrash what are some of today's most valuable collector cars. CARS, the iconic magazine Marty

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wrote and edited didn't rely on industry advertising for revenue. Instead, the magazine made money the old fashioned way, from newsstand sales, leaving it able to be honest and frank in its coverage of high-performance street cars. CARS magazine reported on both Day stock and modified cars, cars the traditional magazines wouldn't touch, like the ultra-high-performance vehicles from companies like Baldwin-Motion, Yenko Chevrolet, Nickey Chevrolet, Royal Pontiac, and Tasca Ford. Prepare yourself for Day One to cover the most important cars of a given year, including: Pontiac's 1962-1963 lightweight Super-Duty 421 street and Swiss Cheese models Chevrolet's 1963 big-block 427 Mystery Motor and ZL-1 Impala. Ford 1963 1/2 427/425 Galaxie fastback The 1964 Ramchargers The first 426 Street Hemi Cotton-Owens prepared Hemi Coronet A 1966 Olds Twin-Engined (850 cubic inches) Grant Toronado, currently owned by Jay Leno A prototype 1966 Plymouth 426 Street Hemi Satellite One of two 427 SOHC Galaxies prototypes A '67 Royal Bobcat GTO Plymouth's original '68 Hemi Road Runner Hurst-built Plymouth & Dodge 1968 Hemi-Darts and Hemi-Cudas

This fully revised and updated edition is one of the most comprehensive references available to engine tuners and race engine builders. Bell covers all areas of engine operation, from air and fuel, through carburation, ignition, cylinders, camshafts and

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valves, exhaust systems and drive trains, to cooling and lubrication. Filled with new material on electronic fuel injection and computerised engine management systems. Every aspect of an engine's operation is explained and analyzed.

Takes engine-tuning techniques to the next level. It is a must-have for tuners and calibrators and a valuable resource for anyone who wants to make horsepower with a fuel-injected, electronically controlled engine.

Transform an average car or truck into a turbocharged high performance street machine. A handbook on theory and application of turbocharging for street and high-performance use, this book covers high performance cars and trucks. This comprehensive guide features sections on theory, indepth coverage of turbocharging components, fabricating systems, engine building and testing, aftermarket options and project vehicles.

The model that truly launched BMW into the performance arena in the United States were the second generation of 3-series cars. Today, the E30 family of BMWs are both readily affordable, and are popular with enthusiasts wanting to personalize them.

8 1/2 x 11, Color on cover only, 300 b/w photos The number one engine modification that sport compact enthusiasts want is the addition of some form of forced induction. Sport Compact Turbos & Blowers is an enthusiast's guide to understanding, installing, and using turbochargers and superchargers on sport compact cars. Included is information on blower basics, how blowers work, roots blowers, screw-type superchargers, centrifugal superchargers, an analysis of turbocharging vs. supercharging, turbo systems for sport

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compacts, building a blown/turbo'd sport compact engine, and blower/turbo accessories. All the information readers need to make their sport compact car the hottest on the street is found right here.

F1 Mavericks is the story of the grandest, most influential, and most fondly remembered era in Formula 1 racing as seen through the lens of master motorsports photographer, Pete Biro. The period from 1960 to 1982 saw the greatest technological changes in the history of Formula 1 racing: the transition from front engines to rear engines, narrow-treaded tires, massive racing slicks, zero downforce, and neck-wrenching ground effects—and, of course, a staggering increase in performance and reduction in lap times. In short, the period saw the creation of the modern Formula 1 car. This is also the time when legendary names who defined F1 were out in full force: Jim Clark, Jack Brabham, Dan Gurney, Sir Jackie Stewart, Graham Hill, Niki Lauda, James Hunt, Bruce McLaren, Jody Scheckter. We'll see and meet all of them. But F1 Mavericks also focuses on the designers and engineers behind the cars—men like Colin Chapman, Sir Patrick Head, Maurice Philippe, Franco Rochhi, Gordon Murray, and many others. We'll hear directly from many of them, including a foreword from 1978 F1 World Champion, Mario Andretti. Every chapter is a photographic account of key races throughout the period, supplemented with sidebars featuring key designers and technologies, like wings, ground effects, slick tires, turbochargers, and the Brabham “fan” suction car. F1 Mavericks is an international story, and includes loads of information on designs from Japan (Honda), Britain (McLaren, Tyrrell, Cooper, BRM) Italy (Ferrari, Maserati, Alfa Romeo), France (Matra, Ligier, Renault), Germany (Porsche, BMW) and the United States (Eagle, Shadow, Penske, Parnelli). Strap yourself in for the story of the greatest era in Formula 1 racing—it's all here in F1

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Mavericks.

The photos in this edition are black and white. Honda and Acura practically invented sport-compact performance, and racers have proven that the popular B-series engines can make huge horsepower numbers both boosted and naturally aspirated - but times are changing. The all-new K-series engines are now found in all Honda and Acura performance models, and are also becoming the engine swap of choice. Building Honda K-Series Engine Performance," author Richard Holdener gives you a detailed description of the K-series engines, the various kinds of aftermarket performance parts available, and describes how these parts perform on the dyno. Each chapter contains numerous color photos and back-to-back dyno tests run on a variety of different test motors including the K20A3, K20A2, K20Z3, K24AZ, and K24A4. You'll find chapters detailing upgrades to the intake, exhaust, cylinder heads, camshafts, and tuning, plus turbochargers, superchargers, and nitrous oxide. Don't spend your hard-earned cash figuring out what works and what doesn't - pick up "Building Honda K-Series Engine Performance" and know for sure.

In this award-winning book, Sato explores the rise and fall of Honda, an international brand name that was created by two very different men.

What does the girl who can make wishes come true give to the man who has everything? Andra Martineau is no ordinary young woman. She's a Klêidouchos Propylaia (K-Pro for short), which means she has the unique ability to help certain people get exactly what they want. And Andra is good at her job--her clients have gone on to become a veritable who's who of the rich-and-famous. David Styles is an up-and-coming actor with everything going for him: looks, talent, and countless beautiful women vying for his attention. But when Andra turns up in his bed demanding to know what he wants,

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his perfect world starts to spiral out of control. And it's not just his reputation is on the line--what David doesn't know can certainly harm him, in ways he couldn't possibly begin to imagine. With the help of David's incorrigible costar, Andra begins to realize not only her own true nature, but David's hidden identity as well. Andra is forced to battle not only her attraction to David (and she never gets involved with clients), but the being within him that wants to take away everything she holds dear. As David continues to lose himself to the strengthening form within him, Andra navigates the jealousies of the film's director and David's would-be paramour in an effort to save him. She can make others' wishes come true But can she grant her own? Funny, readable, and populated with a host of entertaining personalities, The K-Pro is a fast-paced contemporary fantasy with a paranormal twist.

****Winner of the 2016 Creative Child Magazine Book of the Year Award**** ****Winner of the 2015 Gelett Burgess Award for Best Multicultural Book**** When wily animals, everyday people and magical beings come together in a collection of Japanese fairytales, wonderful things are bound to happen! Each story is brilliantly illustrated by a different talented Japanese artist. The tales recounted here are among Japan's oldest and most beloved stories. Entertaining and filled with subtle folk wisdom, these retold stories have been shared countless times in Japanese homes and schools for generations. Like good stories from every time and place, they never grow old. Kids (and their parents!) will enjoy hearing these stories read aloud on the accompanying downloadable audio. The fairytales and classic stories in this collection include: The Wife Who Never Eats—the story of a man who learns the hard way the evils of stinginess. The Mill of the Sea—the story of how a greedy man was responsible for the saltiness of sea water. The Monkey and the Crab—the crabs teach a tricky monkey a lesson in fairness and honesty. The Magical

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Hood—an act of kindness reaps great rewards. Sleepyhead Taro and the Children—a story about what can be accomplished at the right time, and with the right help and the right spirit. The Fox and the Otter—how a fox pays the price of deceit and selfishness. The Gratitude of the Crane—a story about the rewards of kindness and the danger of curiosity. The Tale of the Bamboo Cutter—a girl who starts life very tiny turns out to be big in many ways.

Provides instruction in installing turbochargers, surveys the design, manufacture, and testing of turbocharger kits, and explains the economy and other advantages of turbocharging small engines. When it comes to their personal transportation, today's youth have shunned the large, heavy performance cars of their parents' generation and instead embraced what has become known as the "sport compact"--smaller, lightweight, modern sports cars of predominantly Japanese manufacture. These cars respond well to performance modifications due to their light weight and technology-laden, high-revving engines. And by far, the most sought-after and modified cars are the Hondas and Acuras of the mid-'80s to the present. An extremely popular method of improving vehicle performance is a process known as engine swapping. Engine swapping consists of removing a more powerful engine from a better-equipped or more modern vehicle and installing it into your own. It is one of the most efficient and affordable methods of improving your vehicle's performance. This book covers in

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detail all the most popular performance swaps for Honda Civic, Accord, and Prelude as well as the Acura Integra. It includes vital information on electrics, fit, and drivetrain compatibility, design considerations, step-by-step instruction, and costs. This book is must-have for the Honda enthusiast. The all-color practical Build Your Own Sports Car provides all the information needed to build a road-going two-seater, open-top sports car on a budget, using standard tools, basic skills and low-cost materials. The down-to-earth text clearly explains each step along the road to producing a well-engineered, high-performance sports car, providing a learning experience in engineering and design - and opening up a whole new world of fun motoring. The Haynes Roadster, which has fully independent rear suspension, has been designed with the aid of CAD software to develop the chassis and suspension, resulting in a car with performance and handling to challenge many established kit cars and mainstream sports cars. The design is intended to make use of components sourced primarily from a Ford Sierra donor, although alternative donors are mentioned.

Harness the Latest Tools and Techniques for Troubleshooting and Repairing Virtually Any Diesel Engine Problem The Fourth Edition of Troubleshooting and Repairing Diesel Engines presents the latest advances in diesel technology.

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Comprehensive and practical, this revised classic equips you with all of the state-of-the-art tools and techniques needed to keep diesel engines running in top condition. Written by master mechanic and bestselling author Paul Dempsey, this hands-on resource covers new engine technology, electronic engine management, biodiesel fuels, and emissions controls. The book also contains cutting-edge information on diagnostics...fuel systems...mechanical and electronic governors...cylinder heads and valves...engine mechanics...turbochargers...electrical basics...starters and generators...cooling systems...exhaust aftertreatment...and more. Packed with over 350 drawings, schematics, and photographs, the updated Troubleshooting and Repairing Diesel Engines features: New material on biodiesel and straight vegetable oil fuels Intensive reviews of troubleshooting procedures New engine repair procedures and tools State-of-the-art turbocharger techniques A comprehensive new chapter on troubleshooting and repairing electronic engine management systems A new chapter on the worldwide drive for greener, more environmentally friendly diesels Get Everything You Need to Solve Diesel Problems Quickly and Easily • Rudolf Diesel • Diesel Basics • Engine Installation • Fuel Systems • Electronic Engine Management Systems • Cylinder Heads and Valves • Engine Mechanics •

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Turbochargers • Electrical Fundamentals • Starting and Generating Systems • Cooling Systems • Greener Diesels

Introduced in 1997, the GM LS engine has become the dominant V-8 engine in GM vehicles and a top-selling high-performance crate engine. GM has released a wide range of Gen III and IV LS engines that deliver spectacular efficiency and performance. These compact, lightweight, cutting-edge pushrod V-8 engines have become affordable and readily obtainable from a variety of sources. In the process, the LS engine has become the most popular V-8 engine to swap into many American and foreign muscle cars, sports cars, trucks, and passenger cars. To select the best engine for an LS engine swap, you need to carefully consider the application. Veteran author and LS engine swap master Jefferson Bryant reveals all the criteria to consider when choosing an LS engine for a swap project. You are guided through selecting or fabricating motor mounts for the project. Positioning the LS engine in the engine compartment and packaging its equipment is a crucial part of the swap process, which is comprehensively covered. As part of the installation, you need to choose a transmission crossmember that fits the engine and vehicle as well as selecting an oil pan that has the correct profile for the crossmember with adequate ground clearance. Often the brake booster, steering shaft, accessory

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pulleys, and the exhaust system present clearance challenges, so this book offers you the best options and solutions. In addition, adapting the computer-control system to the wiring harness and vehicle is a crucial aspect for completing the installation, which is thoroughly detailed. As an all-new edition of the original top-selling title, *LS Swaps: How to Swap GM LS Engines into Almost Anything* covers the right way to do a spectrum of swaps. So, pick up this guide, select your ride, and get started on your next exciting project.

Rebuild and modify your Ford inline six with help from the leading performance builders of these engines, *Vintage Inlines!* Covering Ford's small 6-cylinder engine made famous in Falcons, Comets, Mustangs, and many other models from the 1960s and 1970s, this book has everything you need to know from step-by-step rebuilding instructions to performance parts that will set you apart from the rest of the crowd. If this is your first engine build, you'll be glad to know that every aspect of a complete rebuild is here. Starting with engine removal, you'll learn all the different steps, including examination, machine work, reassembly, and reinstallation. The mystery is revealed on setting ring gap, checking valve-to-piston clearance, and even degreasing the camshaft for spot-on valve timing! Whether it's replacing the undersized and outdated 1-barrel carburetor or the original Load-O-Matic

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distributor, you'll learn how to get the most from the engine that came as original equipment in literally millions of our favorite Ford vehicles. With the information in this book, you'll learn how to add a 2-barrel carburetor, electronic ignition, and even a header so you can have the smooth rumble of dual exhaust. Congratulations on your decision to build and modify one of the most popular engines from some of the most popular cars in Ford's long history with Ford Inline Six: How to Rebuild & Modify! Renowned engine builder and technical writer David Vizard turns his attention to extracting serious horsepower from small-block Chevy engines while doing it on a budget. Included are details of the desirable factory part numbers, easy do-it-yourself cylinder head modifications, inexpensive but effective aftermarket parts, the best blocks, rotating assembly (cranks, rods, and pistons), camshaft selection, lubrication, induction, ignition, exhaust systems, and more.

Automotive technology.

Hundreds of photos, charts, and diagrams guide readers through the rebuilding process of their small-block Chevy engine. Each step, from disassembly and inspection through final assembly and tuning, is presented in an easy-to-read, user-friendly format. Whether you're interested in better performance on the road or extra horsepower to be a winner on the track, this book gives you the knowledge you need to

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get the most out of your engine and its turbocharger system. Find out what works and what doesn't, which turbo is right for your needs, and what type of set-up will give you that extra boost. Bell shows you how to select and install the right turbo, how to prep your engine, test the systems, and integrate a turbo with EFI or carbureted engine.

Multi-time author and well-regarded performance engine builder/designer John Baechtel has assembled the relevant mathematics and packaged it all together in a book designed for automotive enthusiasts. This book walks readers through the complete engine, showcasing the methodology required to define each specific parameter, and how to translate the engineering math to hard measurements reflected in various engine parts. Designing the engine to work as a system of related components is no small task, but the ease with which Baechtel escorts the reader through the process makes this book perfect for both the budding engine enthusiast and the professional builder.

First published in 1989 as *Tuning New Generation Engines*, this best-selling book has been fully updated to include the latest developments in four-stroke engine technology in the era of pollution controls, unleaded and low-lead petrol, and electronic management systems. It explains in non-technical language how modern engines can be

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modified for road and club competition use, with the emphasis on power and economy, and how electronic management systems and emission controls work.

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