

## Car Engine Tuning Software

The photos in this edition are black and white. Dyno Testing and Tuning is the first book to explain the proper testing procedures that everyone should use to get accurate and useful results from either an engine or chassis dyno. Authors Harold Bettes and Bill Hancock, recognized experts in the performance and racing industry, apply their wealth of knowledge and experience to deliver the definitive work on dynamometers and dyno testing. This book will be useful to anyone who wants to squeeze more power out of their car or engine, but should also be required reading for performance shop owners and dyno operators. The book explains how a dyno works, describes what kinds of data a dyno test can produce, and then shows you how to plan a test session that will give you the results you're looking for. You'll learn what to look for in a dyno facility, how to conduct a dyno test and ensure the accuracy and repeatability of your test, and how to troubleshoot any problems that arise. Sample forms and checklists round out what is sure to be an indispensable book for anyone who wants to make the most of their dyno testing.

The GM LS engine has revolutionized the muscle car and the high-performance V-8 market. It has become a favorite engine to swap into classic cars because it offers a superior combination of horsepower, torque, and responsiveness in a compact package. As such, these modern pushrod V-8 engines are installed in vintage GM muscle cars with relative ease, and that includes Chevelles and other popular GM A-Body cars. In fact, General Motors manufactured about 500,000 Chevelles and A-Body cars between 1968 and 1970 alone. Jefferson Bryant, author of LS Swaps: How To Swap GM LS Engines into Almost Anything, has performed many LS swaps throughout his career, and has transplanted the LS into several A-Body cars. In this comprehensive guide, he provides detailed step-by-step instructions for installing an LS powerplant into a Chevelle, Buick GS, Oldsmobile Cutlass, and Pontiac GTO. To successfully install an LS engine, you need to select or fabricate motor mounts and adapter plates to mount the engine to the chassis. Also, you need to integrate the electronic engine controls and wiring harness to the A-Body car. If you run a fuel-injection system, a new tank or high-pressure fuel pump, fuel lines, and related equipment must be installed. Bryant covers all of these crucial steps and much more. He explains essential procedures, time saving techniques, and solutions to common problems. In addition, he performs a new LT swap into an A-Body car. Swapping an LS engine into an A-Body is made much easier with a comprehensive guidebook such as this, whether you plan on doing it yourself or decide to have a shop do it for you. A huge and thriving aftermarket provides a wide range of suspension, brake, steering, chassis, and other parts that produce functional improvements. Before you tackle your LS Swap project, arm yourself with this vital information to guide you through the process. p.p1

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This book presents the state of the art, challenges and future trends in automotive software engineering. The amount of automotive software has grown from just a few lines of code in the 1970s to millions of lines in today's cars. And this trend seems destined to continue in the years to come, considering all the innovations in electric/hybrid, autonomous, and connected cars. Yet there are also concerns related to onboard software, such as security, robustness, and trust. This book covers all essential aspects of the field. After a general introduction to the topic, it addresses automotive software development, automotive software reuse, E/E architectures and safety, C-ITS and security, and future trends. The specific topics discussed include requirements engineering for embedded software systems, tools and methods used in the automotive industry, software product lines, architectural frameworks, various related ISO standards, functional safety and safety cases, cooperative intelligent transportation systems, autonomous vehicles, and security and privacy issues. The intended audience includes researchers from academia who want to learn what the fundamental challenges are and how they are being tackled in the industry, and practitioners looking for cutting-edge academic findings. Although the book is not written as lecture notes, it can also be used in advanced master's-level courses on software and system engineering. The book also includes a number of case studies that can be used for student projects.

Provides excellent instruction and guidance for selecting the best engine for a budget, choosing the adapter plates and engine mounts, dropping the engine in the car, selecting the ideal transmission and drivelines, and completing all facets of the swap.

Build smarter, race faster, win more. Covers topics such as airflow basics, cylinder head and fuel systems tech, blueprinting tips and techniques, camshaft theory, and selection.

How to Build Max-Performance Chrysler Hemi Engines details how to extract even more horsepower out of these incredible engines. All the block options from street versus race, new to old, iron versus aluminum are presented. Full detailed coverage on the reciprocating assembly is also included. Heads play an essential role in flowing fuel and producing maximum horsepower, and therefore receive special treatment. Author Richard Nedbal explores major head types, rocker arm systems, head machining and prep, valves, springs, seats, porting quench control and much more. All the camshaft considerations are discussed as well, so you can select the best specification for your engine build. All the induction options are covered, including EFI. Aftermarket ignitions systems, high-performance oiling systems and cooling systems are also examined. How to install and set up power adders such as nitrous oxide, superchargers, and turbochargers is also examined in detail.

Electronic Engine TuningLulu.comEngine ManagementAdvanced TuningCarTech Inc

Object-oriented programming (OOP) has been the leading paradigm for developing software applications for at least 20 years. Many different methodologies, approaches, and techniques have been created for OOP, such as UML, Unified Process, design patterns, and eXtreme Programming. Yet, the actual process of building good software, particularly large, interactive, and long-lived software, is still emerging. Software engineers familiar with the current crop of methodologies are left wondering, how does all of this

fit together for designing and building software in real projects? This handbook from one of the world's leading software architects and his team of software engineers presents guidelines on how to develop high-quality software in an application-oriented way. It answers questions such as: \* How do we analyze an application domain utilizing the knowledge and experience of the users? \* What is the proper software architecture for large, distributed interactive systems that can utilize UML and design patterns? \* Where and how should we utilize the techniques and methods of the Unified Process and eXtreme Programming? This book brings together the best of research, development, and day-to-day project work. "The strength of the book is that it focuses on the transition from design to implementation in addition to its overall vision about software development." -Bent Bruun Kristensen, University of Southern Denmark, Odense

A car PC or carputer is a car tricked-out with electronics for playing radio, music and DVD movies, connecting to the Internet, navigating and tracking with satellite, taking photos, and any electronic gadget a person wants in a car. All these devices are managed and controlled through a single screen or interface. The only place car PC enthusiasts can go for advice, tips and tools is a handful of hard-to-find Web sites--until now. Car PC Hacks is your guide into the car PC revolution. Packing MP3 players, handheld devices, computers and video-on-demand systems gives you a pile too heavy to carry. But add a car and put them together, you've got a powerful and mobile multimedia center requiring no lifting. The next time you give kids a lift, you won't hear, "Are we there yet?" Instead, expect "We're there already?" as they won't want to leave the car while playing video games from multiple consoles. Car PC Hacks is the first book available to introduce and entrench you into this hot new market. You can count on the book because it hails from O'Reilly, a trusted resource for technical books. Expect innovation, useful tools, and fun experiments that you've come to expect from O'Reilly's Hacks Series. Maybe you've hacked computers and gadgets, and now you're ready to take it to your car. If hacking is new and you would like to mix cars and computers, this book gets you started with its introduction to the basics of car electrical systems. Even when you're unclear on the difference between amps and watts, expect a clear explanation along with real-life examples to get on track. Whether you're venturing into car PC for the first time or an experienced hobbyist, hop in the book for a joy ride.

This book focuses on the vulnerabilities of state and local services to cyber-threats and suggests possible protective action that might be taken against such threats. Cyber-threats to U.S. critical infrastructure are of growing concern to policymakers, managers and consumers. Information and communications technology (ICT) is ubiquitous and many ICT devices and other components are interdependent; therefore, disruption of one component may have a negative, cascading effect on others. Cyber-attacks might include denial of service, theft or manipulation of data. Damage to critical infrastructure through a cyber-based attack could have a significant impact on the national security, the economy, and the livelihood and safety of many individual citizens. Traditionally cyber security has generally been viewed as being focused on higher level threats such as those against the internet or the Federal government. Little attention has been paid to cyber-security at the state and local level. However, these governmental units play a critical role in providing services to local residents and consequently are highly vulnerable to cyber-threats. The failure of these services, such as waste water collection and water supply, transportation, public safety, utility services, and communication services, would pose a great threat to the public. Featuring contributions from leading experts in the field, this volume is intended for state and local government officials and managers, state and Federal officials, academics, and public policy specialists.

Learn all the skills you need to pass Level 3 and 4 Vehicle Diagnostic courses from IMI, City and Guilds and BTEC, as well as higher levels, ASE, AUR and other qualifications. Advanced Automotive Fault Diagnosis explains the fundamentals of vehicle systems and components and examines diagnostic principles as well as the latest techniques employed in effective vehicle maintenance and repair. Diagnostics, or fault finding, is an essential part of an automotive technician's work, and as automotive systems become increasingly complex there is a greater need for good diagnostics skills. For students new to the subject, this book will help to develop these skills, but it will also assist experienced technicians to further improve their performance and keep up with recent industry developments. Checked and endorsed by the Institute of to him to ensure that it is ideal for both independent and tutor-based study Diagnostics case studies to help you put the principles covered into real-life context Useful margin features throughout, including definitions, key facts and 'safety first' considerations

The Chevrolet Camaro really needs no introduction to automotive enthusiasts. From its inception (along with the Firebird) in 1967, the Camaro established a reputation that made its name a household word. Insanely popular on the street, successful in all forms of competition, and a perennial best seller, over the past half-century the Camaro has cemented its status as an icon. The Camaro did go on hiatus for an 8-year period, much to the chagrin of Chevrolet, but made a triumphant return in 2010 with the 5th Gen models. Of course the new generation of Camaros is filled with the technology you would expect, including multiple trim versions and a variety of engine packages. And of course, as capable as the new cars are, Camaro enthusiasts always want more. That's where this book comes in. Filling these pages is great step-by-step information on modifying your 5th Gen, including upgrade instruction on brakes, suspension, rear axles, intake and exhaust, cooling, fuel systems, transmissions, LS engine mods, superchargers, turbochargers, ECM tuning, aftermarket EFIs, and more. There is fierce competition on the street for modern muscle supremacy. With Camaro 5th Gen 2010-2015: How to Build and Modify you can keep your Camaro ahead of the competition.

The General Motors G-Body is one of the manufacturer's most popular chassis, and includes cars such as Chevrolet Malibu, Monte Carlo, and El Camino; the Buick Regal, Grand National, and GNX; the Oldsmobile Cutlass Supreme; the Pontiac Grand Prix, and more. This traditional and affordable front engine/rear-wheel-drive design lends itself to common upgrades and modifications for a wide range of high-performance applications, from drag racing to road racing. Many of the vehicles GM produced using this chassis

were powered by V-8 engines, and others had popular turbocharged V-6 configurations. Some of the special-edition vehicles were outfitted with exclusive performance upgrades, which can be easily adapted to other G-Body vehicles. Knowing which vehicles were equipped with which options, and how to best incorporate all the best-possible equipment is thoroughly covered in this book. A solid collection of upgrades including brakes, suspension, and the installation of GMs most popular modern engine-the LS-Series V-8-are all covered in great detail. The aftermarket support for this chassis is huge, and the interchangeability and affordability are a big reason for its popularity. It's the last mass-produced V-8/rear-drive chassis that enthusiasts can afford and readily modify. There is also great information for use when shopping for a G-Body, including what areas to be aware of or check for possible corrosion, what options to look for and what should be avoided. No other book on the performance aspects of a GM G-Body has been published until now, and this book will serve as the bible to G-Body enthusiasts for years to come.

Trends in automotive modification come and go, some outlandish, some practical. Currently, the trend called "Pro Touring," while expensive, definitely leans toward the practical. Originally a term coined for GM cars, the term Pro Touring has come to mean a style of all cars, and many eras. Pro Touring is essentially the art of adding modern technology to aged designs, creating cars that stop, start, handle, drive, and behave just as modern performance cars do. You can do this in many ways and choose from many suppliers. Detroit Speed is at the forefront of the Pro Touring movement. Both a parts manufacturer and car builder, the company is in a unique position not only to design and manufacture parts, but to build cars and test the parts for their effectiveness on the street and track. Kyle and Stacy Tucker have put their considerable skill in engineering and market savvy to create a unique company to lead the Pro Touring movement. Not only do you learn about the history of the company and how they design their performance parts, install sections cover front sub-frame assemblies, rear suspension assemblies, wheel tubs, fuel system upgrades, brake upgrades, driveline upgrades including an LS swap, cooling system upgrades, and more. The featured cars are customer builds as well as DSE test cars, which include a host of different Chevrolet products, a 1966 Mustang and a 1969 Charger. Detroit Speed's How to Build a Pro Touring Car is a vital edition to every performance enthusiast's library.

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 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.

From electronic ignition to electronic fuel injection, slipper clutches to traction control, today's motorcycles are made up of much more than an engine, frame, and two wheels. And, just as the bikes themselves have changed, so have the tools with which we tune them. How to Tune and Modify Motorcycle Engine Management Systems addresses all of a modern motorcycle's engine-control systems and tells you how to get the most out of today's bikes. Topics covered include: How fuel injection works Aftermarket fuel injection systems Open-loop and closed-loop EFI systems Fuel injection products and services Tuning and troubleshooting Getting more power from your motorcycle engine Diagnostic tools Electronic throttle control (ETC) Knock control systems Modern fuels Interactive computer-controlled exhaust systems

This is the book required for students to use in The Tuning School's class "Beginners tuning using HP Tuners on GM LS based vehicles" in Educational institutions. This Corresponds to The Tuning School's internal course number 1110.

This book is an indispensable reference for developers and administrators who want to maximize the performance of their Sun systems. Revised and updated to cover the latest SPARC and software release (including Solaris 2.6). This book presents a collaboration of configuration and performance information not available anywhere else.

Looks at the combustion basics of fuel injection engines and offers information on such topics as VE equation, airflow estimation, setups and calibration, creating timing maps, and auxiliary output controls.

Singapore's best homegrown car magazine, with an editorial dream team driving it. We fuel the need for speed!

The European research project DESERVE (DEvelopment platform for Safe and Efficient dRiVE, 2012-2015) had the aim of designing and developing a platform tool to cope with the continuously increasing complexity and the simultaneous need to reduce cost for future embedded Advanced Driver Assistance Systems (ADAS). For this purpose, the DESERVE platform profits from cross-domain software reuse, standardization of automotive software component interfaces, and easy but safety-compliant integration of heterogeneous modules. This enables the development of a new generation of ADAS applications, which challengingly combine different functions, sensors, actuators, hardware platforms, and Human Machine Interfaces (HMI). This book presents the different results of the DESERVE project concerning the ADAS development platform, test case functions, and validation and evaluation of different approaches. The reader is invited to substantiate the content of this book with the deliverables published during the DESERVE project. Technical topics discussed in this book include: Modern ADAS development platforms; Design space exploration; DRIVER MODELLING; Video-based and Radar-based ADAS functions; HMI for ADAS; Vehicle-hardware-in-the-loop validation systems

In GM LS-Series Engines: The Complete Swap Manual, expert Joseph Potak walks you through all the steps involved in installing an LS engine into any vehicle, from concept to completion. Variants of GM's groundbreaking family of LS engines are installed in everything from the company's most mundane panel vans to its earth-shaking Corvette ZR1. First underhood in the 1997 Corvette, the LS1, and its successors have proven powerful, reliable, and amazingly fuel efficient. Since that time, more than a dozen variants have been produced, ranging from bulletproof, iron-block 4.8-liter workhorses to the supercharged 7.0-liter LS7. Performance enthusiasts have embraced this remarkable V-8, and it has quickly become a favorite for engine swaps. Why? Because the versatile engine offers fantastic power, a compact design, and light weight, and it responds very well to performance modifications. The key to this performance is a sophisticated electronics package that can intimidate even the most adventurous hot rodder. In GM LS-Series Engines: The Complete Swap Manual, professional LS-series engine specialist and technician Joseph Potak details all the considerations involved in performing this swap into any vehicle. With clear instructions, color photos, diagrams, and specification tables, Potak guides you through: Mounting your new engine Configuring the EFI system Designing fuel and exhaust systems Sourcing the correct accessories for your application Transmission, torque converters, and clutches Performance upgrades and power-adders Troubleshooting, should problems arise This is the ultimate guide to installing an LS in your project car.

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.

This volume constitutes the proceedings of the 1st ACM SIGPLAN/SIGSOFT International Conference on Generative Programming and Component Engineering (GPCE 2002), held October 6–8, 2002, in Pittsburgh, PA, USA, as part of the PLI 2002 event, which also included ICFP, PPDP, and related workshops. The future of Software Engineering lies in the automation of tasks that are performed manually today. Generative Programming (developing programs that synthesize other programs), Component Engineering (raising the level of modularization and analysis in application design), and Domain-Specific Languages (elevating program specifications to compact domain-specific notations that are easier to write and maintain) are key technologies for automating program development. In a time of conference and workshop proliferation, GPCE represents a counter-trend in the merging of two distinct communities with strongly overlapping interests: the Generative and Component-Based Software Engineering Conference (GCSE) and the International Workshop on the Semantics, Applications, and Implementation of Program Generation (SAIG). Researchers in the GCSE community address the topic of program automation from a contemporary software engineering viewpoint; SAIG correspondingly represents a community attacking automation from a more formal programming languages viewpoint. Together, their combination provides the depth of theory and practice that one would expect in a premier research conference. Three prominent PLI invited speakers lectured at GPCE 2002: Neil Jones (University of Copenhagen), Catuscia Palamidessi (Penn State University), and Janos Sztipanovits (Vanderbilt University). GPCE 2002 received 39 submissions, of which 18 were accepted.

Modern cars are more computerized than ever. Infotainment and navigation systems, Wi-Fi, automatic software updates, and other innovations aim to make driving more convenient. But vehicle technologies haven't kept pace with today's more hostile security environment, leaving millions vulnerable to attack. The Car Hacker's Handbook will give you a deeper understanding of the computer systems and embedded software in modern vehicles. It begins by examining vulnerabilities and providing detailed explanations of communications over the CAN bus and between devices and systems. Then, once you have an understanding of a vehicle's communication network, you'll learn how to intercept data and perform specific hacks to track vehicles, unlock doors, glitch engines, flood communication, and more. With a focus on low-cost, open source hacking tools such as Metasploit, Wireshark, Kayak, can-utils, and ChipWhisperer, The Car Hacker's Handbook will show you how to: –Build an accurate threat model for your vehicle –Reverse engineer the CAN bus to fake engine signals –Exploit vulnerabilities in diagnostic and data-logging systems –Hack the ECU and other firmware and embedded systems –Feed exploits through infotainment and vehicle-to-vehicle communication systems –Override factory settings with performance-tuning techniques –Build physical and virtual test benches to try out exploits safely If you're curious about automotive security and have the urge to hack a two-ton computer, make The Car Hacker's Handbook your first stop.

This completely revised and updated edition of HP's bestselling book on how to build high performance 5.0/5.8L Ford small-block engines—the second most popular engine modified in the aftermarket—contains five new chapters on the latest technology for modifying the cylinder block, heads, camshafts, valvetrain, exhaust systems, and more. Drawing on a wealth of knowledge and experience and a background of more than 1,000 magazine articles on the subject, engine control expert Jeff Hartman explains everything from the basics of engine management to the building of complicated project cars. Hartman has substantially updated the material from his 1993 MBI book Fuel Injection (0-879387-43-2) to address the incredible developments in automotive fuel injection technology from the past decade, including the multitude of import cars that are the subject of so much hot rodding today. Hartman's text is extremely detailed and logically arranged to help readers better understand this complex topic.

Introduction to system performance; Monitoring system activity; Managing the workload; Memory performance; Disk performance issues; Network performance; Terminal performance; Kernel configuration.

Vehicle maintenance.

A practical guide to modifying and tuning modern electronic fuel injection (EFI) systems, including engine control units (ECUs). The book starts out with plenty of foundational topics on wiring,

fuel systems, sensors, different types of ignition systems, and other topics to help ensure the reader understands how EFI Systems work. Next the book builds on that foundation, helping the reader to understand the different options available: Re-tuning factory ECUs, add on piggyback computers, or all out standalone engine management systems. Next Matt and Jerry help the reader to understand how to configure a Standalone EMS, get the engine started, prep for tuning, and tune the engine for maximum power and drivability. Also covered is advice on tuning other functions-- acceleration enrichments, closed loop fuel correction, and more. Finally, the book ends with a number of case studies highlighting different vehicles and the EMS solutions that were chosen for each, helping to bring it all together with a heavy emphasis on how you can practically approach your projects and make them successful!

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.

GM LS-series engines are some of the most powerful, versatile, and popular V-8 engines ever produced. They deliver exceptional torque and abundant horsepower, are in ample supply, and have a massive range of aftermarket parts available. Some of the LS engines produce about 1 horsepower per cubic inch in stock form--that's serious performance. One of the most common ways to produce even more horsepower is through forced air induction--supercharging or turbocharging. Right-sized superchargers and turbochargers and relatively easy tuning have grown to make supercharging or turbocharging an LS-powered vehicle a comparatively simple yet highly effective method of generating a dramatic increase in power. In the revised edition of How to Supercharge & Turbocharge GM LS-Series Engines, supercharger and turbocharger design and operation are covered in detail, so the reader has a solid understanding of each system and can select the best system for his or her budget, engine, and application. The attributes of Roots-type and centrifugal-type superchargers as well as turbochargers are extensively discussed to establish a solid base of knowledge. Benefits and drawbacks of each system as well as the impact of systems on the vehicle are explained. Also covered in detail are the installation challenges, necessary tools, and the time required to do the job. Once the system has been installed, the book covers tuning, maintenance, and how to avoid detonation so the engine stays healthy. Cathedral, square, and D-shaped port design heads are explained in terms of performance, as well as strength and reliability of the rotating assembly, block, and other components. Finally, Kluczyk explains how to adjust the electronic management system to accommodate a supercharger or turbocharger. How to Supercharge and Turbocharge GM LS-Series Engines is the only book on the market specifically dedicated to forced air induction for LS-series engines. It provides exceptional guidance on the wide range of systems and kits available for arguably the most popular modern V-8 on the market today.

As the digital economy changes the rules of the game for enterprises, the role of software and IT architects is also transforming. Rather than focus on technical decisions alone, architects and senior technologists need to combine organizational and technical knowledge to effect change in their company's structure and processes. To accomplish that, they need to connect the IT engine room to the penthouse, where the business strategy is defined. In this guide, author Gregor Hohpe shares real-world advice and hard-learned lessons from actual IT transformations. His anecdotes help architects, senior developers, and other IT professionals prepare for a more complex but rewarding role in the enterprise. This book is ideal for: Software architects and senior developers looking to shape the company's technology direction or assist in an organizational transformation Enterprise architects and senior technologists searching for practical advice on how to navigate technical and organizational topics CTOs and senior technical architects who are devising an IT strategy that impacts the way the organization works IT managers who want to learn what's worked and what hasn't in large-scale transformation

Using his own wealth of hands-on experience combined with input from many amateur restorers, and aided by the top TR specialists, Roger Williams explains in great detail how to increase the performance and improve the handling and braking of the six-cylinder TR sports cars for fast road use, track days or more serious motorsport.

A guide of more than 35 complete engine buildups offering a wide variety of performance levels for several generations of Ford V8 engine families.

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