

comp cam selection guide

Comp Cam Selection Guide: Unlocking the Power of Your Engine

comp cam selection guide is an essential resource for anyone looking to upgrade their engine's performance with aftermarket camshafts. Whether you're a seasoned mechanic or a weekend enthusiast, understanding how to choose the right cam for your application can dramatically affect your vehicle's horsepower, torque, and overall drivability. The right camshaft isn't just about more power—it's about matching your engine's characteristics and your driving style to get the best results.

In this guide, we'll dive into the key factors you need to consider when selecting a Comp Cam, explore various camshaft specifications, and share tips to help you make an informed decision. From understanding cam profiles to compatibility issues, this article will help you navigate through the sometimes overwhelming world of cam selection with confidence.

Understanding the Basics of Camshafts

Before jumping into the specifics of a comp cam selection guide, it's important to grasp what a camshaft actually does. The camshaft is a core component of an internal combustion engine that controls the opening and closing of the intake and exhaust valves. By altering the timing and duration of these valve movements, the camshaft directly influences the engine's breathing efficiency and power output.

Camshaft Terminology Explained

When selecting a camshaft, you'll encounter terms like duration, lift, and lobe separation angle. Here's a quick rundown of these critical concepts:

- ****Duration:**** The length of time the valve stays open, measured in degrees of crankshaft rotation. Longer duration cams hold the valves open longer, improving high-RPM power but can sacrifice low-end torque.
- ****Lift:**** How far the valve moves off its seat. Higher lift allows more air and fuel into the combustion chamber, increasing power potential.
- ****Lobe Separation Angle (LSA):**** The angle between the intake and exhaust lobes on the camshaft. A narrower LSA can increase overlap, enhancing top-end power but may cause rough idling.

Understanding these parameters helps you tailor your cam choice to your engine's build and intended use.

Why Choose a Comp Camshaft?

Comp Cams is a well-respected brand known for offering a broad range of camshafts and valvetrain components engineered for performance and reliability. Their cams are popular among racers, street enthusiasts, and builders because of their precise engineering and variety of options that cater to different engines and performance goals.

Variety and Customization

One of the main reasons to use a comp cam selection guide is to navigate through Comp Cams' extensive product lineup. They produce cams for everything from mild street engines to high-performance racing applications. Whether you need a hydraulic flat tappet cam, a roller cam, or a solid lifter cam, Comp Cams likely has a model designed for your specific engine and setup.

Performance Enhancements

Choosing the right Comp Camshaft can unlock significant horsepower gains, improved throttle response, and better exhaust sound. The quality construction of Comp Cams ensures durability even under high RPM conditions, which is crucial for racing or heavy-duty applications.

Key Factors to Consider in a Comp Cam Selection Guide

Selecting the right camshaft involves more than just picking the biggest lift or longest duration. Several factors must be balanced to achieve the desired results without compromising engine longevity or drivability.

Engine Specifications and Build

Your engine's displacement, compression ratio, cylinder head flow, and intake/exhaust setup have a huge impact on which cam will perform best. For example, a small-block Chevy with stock heads and a mild intake manifold will respond differently to a cam than a high-compression big-block with aftermarket heads and a free-flowing exhaust.

Vehicle Usage and Driving Style

What you do with your vehicle matters a lot. Are you building a daily driver, a weekend cruiser, or a dedicated drag racer? Street-driven cars typically benefit from cams with moderate duration and lift to maintain smooth idle and low-end torque. On the other hand, race cars often use aggressive cams with higher lift and longer duration for maximum top-end power.

Compatibility with Valvetrain Components

Not all cams work with every valvetrain setup. Hydraulic cams are easier to maintain and great for street use, but solid lifter cams are often preferred for racing. Roller cams require matching roller lifters and rockers. Checking compatibility ensures that your new cam works seamlessly with your pushrods, lifters, springs, and rocker arms.

How to Use a Comp Cam Selection Guide Effectively

A well-designed comp cam selection guide will often provide detailed charts and recommendations based on engine size, RPM range, and vehicle application. Here's how to make the most of these resources.

Match Duration and Lift to RPM Range

Identify your engine's operating RPM band, then look for cams with duration and lift specifications that complement that range. For instance, if your engine runs mostly between 2,500 and 5,500 RPM, a cam with moderate duration (around 210-220 degrees) and lift will offer the best balance of power and drivability.

Consider Valve Spring Requirements

Higher lift cams usually require stiffer valve springs to prevent valve float at high RPMs. Check the cam's recommended spring pressures and ensure your valve springs can handle the increased demands to avoid damage.

Consult with Experts and Technical Support

Don't hesitate to reach out to Comp Cams' technical support or experienced engine builders when you're uncertain. They can provide insights based on your engine's specifics and intended use, helping you avoid costly mistakes.

Popular Comp Cam Profiles and Their Applications

Comp Cams offers several popular cam profiles designed for different performance needs. Here's a look at a few well-known options.

XE Series

The XE series is designed for street performance and mild racing applications. These cams feature hydraulic or mechanical roller designs, providing a good balance of power and drivability with smooth idle characteristics. They're perfect for muscle cars and street rods.

XR Series

The XR series targets more aggressive street and race engines. These cams have longer duration and higher lift, delivering increased top-end

horsepower. However, they may sacrifice some low-speed torque and idle quality, making them ideal for serious performance builds.

Ultra Pro Magnum Series

For drag racers and high-RPM race engines, the Ultra Pro Magnum cams offer aggressive profiles with maximum lift and duration. These cams require supporting modifications like high-performance springs and often solid lifters for reliable operation.

Final Tips for Choosing Your Comp Cam

When working through your comp cam selection guide, remember that camshafts don't work in isolation. They're one piece of your engine's puzzle. To optimize performance, consider the entire valvetrain, exhaust, intake, and fuel system.

Start with a clear understanding of your goals and build your cam selection around your engine's strengths. Don't be swayed just by the biggest numbers; sometimes a smaller, well-matched cam offers better real-world performance than an aggressive cam that's difficult to manage.

Lastly, take advantage of online forums, dyno testing, and builder feedback to see how different Comp Cam profiles behave in applications similar to yours. This real-world data can be invaluable in making the perfect cam choice.

Choosing the right camshaft is a journey, but with the right comp cam selection guide and a bit of patience, you'll unlock your engine's hidden potential and enjoy the thrill of a truly personalized power upgrade.

Frequently Asked Questions

What factors should I consider when selecting a COMP cam?

When selecting a COMP cam, consider factors such as engine size, intended use (street, strip, or race), desired RPM range, horsepower goals, and compatibility with your cylinder heads and intake.

How do I choose the right camshaft duration for my build using a COMP cam?

Choose a camshaft duration that matches your engine's RPM range and performance goals. Shorter durations (200-210 degrees) are better for street use and low-end torque, while longer durations (220+ degrees) suit high-RPM racing applications.

What is the difference between COMP's XE and XE-R cam series?

COMP's XE series cams are designed for street performance with a good balance of power and drivability, while the XE-R series cams are more aggressive, aimed at race applications with higher lift and duration for maximum performance.

Can I use a COMP cam for a daily driver vehicle?

Yes, COMP offers cams specifically designed for daily drivers that provide improved performance without sacrificing drivability or idle quality, such as their XE or XFI series street cams.

How does valve lift impact cam selection in a COMP cam guide?

Valve lift affects how much air and fuel enter the engine. Higher lift usually means more power but requires matching components like springs and heads. COMP cams offer various lift options to suit different performance levels and engine setups.

Do I need to upgrade other components when installing a COMP cam?

Often, yes. Upgrading valve springs, lifters, timing sets, and possibly the intake and exhaust is recommended to handle the cam's increased performance and ensure reliability.

How important is matching the cam profile to my cylinder heads in the COMP cam selection process?

Very important. The cam profile should complement the flow characteristics of your cylinder heads to maximize efficiency and performance. COMP provides selection guides to help match cams with specific head types.

What tools or resources does COMP provide to help with cam selection?

COMP offers online cam selection guides, technical support, and software tools like the COMP Cams Camshaft Selector to help users choose the right cam based on their engine specs and goals.

Can I install a COMP cam myself, or should I seek professional help?

While experienced enthusiasts can install a COMP cam, it requires precise mechanical skills and tools. For best results and to avoid engine damage, professional installation and tuning are recommended.

Additional Resources

Comp Cam Selection Guide: Navigating the Path to Optimal Engine Performance

comp cam selection guide serves as an essential resource for enthusiasts, mechanics, and professionals seeking to enhance engine performance through precise camshaft choice. Selecting the right camshaft from Comp Cams—a leading manufacturer renowned for its extensive catalog of performance camshafts—requires a thorough understanding of engine dynamics, application requirements, and technical specifications. This guide delves into critical factors influencing camshaft selection, offering an analytical perspective tailored to maximize efficiency, power, and drivability.

Understanding the Role of a Camshaft in Engine Performance

The camshaft is a pivotal component in the internal combustion engine, governing valve timing and lift to orchestrate the air-fuel mixture and exhaust flow. Its design directly impacts torque, horsepower, idle quality, and overall engine responsiveness. Comp Cams provides a diverse range of camshafts engineered for various applications—from street performance and drag racing to circle track and marine engines. Therefore, the comp cam selection guide begins by emphasizing the significance of matching camshaft profiles to specific engine goals.

Key Technical Parameters in Camshaft Selection

Effective camshaft selection involves analyzing several technical parameters, including:

- **Duration:** The number of degrees the valve remains open. Longer duration typically favors high-RPM horsepower but can compromise low-end torque and idle smoothness.
- **Lift:** The maximum distance the valve opens, influencing the amount of air and fuel entering the combustion chamber.
- **Lobe Separation Angle (LSA):** The angle between intake and exhaust lobes; narrower LSAs can increase overlap and performance but may affect idle quality.
- **Overlap:** The period when both intake and exhaust valves are open, critical for scavenging and emissions.

These factors must be balanced in accordance with engine displacement, compression ratio, cylinder head flow capacity, and intended use.

Comp Cams Product Lines and Their Applications

Comp Cams offers a variety of camshaft series, each optimized for distinct performance niches. Understanding these product lines is vital within the comp cam selection guide to align choices with application-specific demands.

Street Performance Cams

Designed for daily-driven vehicles, these cams prioritize smooth idle, drivability, and fuel economy while providing noticeable power gains. Examples include the XE series, which features conservative duration and lift values to maintain street manners without sacrificing performance.

Race and High-Performance Cams

For track-oriented builds or high-RPM engines, Comp's Xtreme Energy and Magnum series deliver aggressive timing, increased duration, and lift. These cams dramatically improve airflow at high engine speeds but often require complementary modifications such as upgraded valve springs and carburetion tuning.

Specialty and Marine Cams

Comp Cams also caters to specialized applications, including marine engines and vintage restorations. These cams balance power delivery with application-specific constraints like marine cooling systems or emission standards.

Factors to Consider When Using the Comp Cam Selection Guide

Selecting the ideal camshaft transcends raw specifications; it demands a holistic understanding of the vehicle's characteristics and intended use.

Engine Size and Configuration

A larger displacement engine generally benefits from cams with longer duration and higher lift, as there is more air volume to fill the cylinders. Conversely, smaller engines require conservative cams to preserve torque and responsiveness.

Compression Ratio

Higher compression engines can tolerate more aggressive cam profiles without suffering from detonation, allowing for increased performance potential. Lower compression engines may require milder cams to maintain drivability and

engine safety.

Valve Train Components

Upgraded valve springs, retainers, and pushrods are often necessary to accommodate higher lift cams and prevent valve float at elevated RPMs. The comp cam selection guide underscores the importance of matching camshaft profiles with compatible hardware.

Fuel System and Exhaust

Camshafts influence the engine’s volumetric efficiency; therefore, the fuel delivery and exhaust system must be capable of supporting increased airflow. For instance, a performance cam with aggressive overlap demands a free-flowing exhaust and potentially larger carburetion or fuel injection systems.

Intended Use and Driving Conditions

Street-driven vehicles require cams that deliver smooth idle and low-end torque, while race applications can sacrifice these traits for peak power at high RPMs. Daily drivers with automatic transmissions often prefer cams with moderate duration and overlap to maintain drivability.

Data-Driven Comparison: Comp Cams XE vs. Xtreme Energy Series

To contextualize cam selection, consider the following comparative analysis between two popular Comp Cams lines.

Specification	Xtreme Energy Series (Race)	
	XE Series (Street)	
Duration @ .050" (Intake)	210° - 220°	230° - 250°
Lift (Intake)	0.450" - 0.480"	0.500" - 0.580"
Lobe Separation Angle	112° - 114°	106° - 110°
Idle Quality	Smooth	Rough
Recommended RPM Range	1500 - 5500	3500 - 7000+

This comparison illustrates the trade-offs between street usability and high-RPM performance, guiding users through tangible differences in camshaft

behavior.

Integrating the Comp Cam Selection Guide with Engine Build Strategy

Beyond camshaft specifics, a comprehensive engine build strategy should incorporate the comp cam selection guide as one element in a broader performance matrix. For instance, pairing camshaft selection with cylinder head flow characteristics, intake manifold design, and ignition timing can amplify gains.

Professionals often recommend dyno testing and iterative tuning to validate cam choices and optimize engine calibration. Additionally, software tools and Comp Cams' online selection resources can assist in narrowing down options based on custom input parameters.

Pros and Cons of Upgrading to a Performance Camshaft

- **Pros:** Increased horsepower and torque, improved throttle response, enhanced engine sound, and potential for better fuel efficiency under certain conditions.
- **Cons:** Possible reduction in idle smoothness, increased emissions, requirement for complementary upgrades, and potential warranty voidance.

Understanding these trade-offs is essential in the decision-making process underscored in the comp cam selection guide.

The complexity of camshaft selection underscores the necessity of a methodical approach. By leveraging technical knowledge, empirical data, and manufacturer resources like the Comp Cam selection guide, engine builders and performance enthusiasts can make informed decisions that harmonize power, reliability, and drivability. Whether restoring a classic muscle car or crafting a purpose-built race engine, the camshaft choice remains a cornerstone of engine optimization.

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comp cam selection guide: *The Mopar Six-Pack Engine Handbook HP1528* Larry Shepard, 2008-06-03 A step-by-step guide to rebuilding, restoring, and modifying the famous Mopar 'Six-Pack' engines that appeared in all of Chrysler's muscle cars from 1969 through 1971, as well as the late-model small-blocks and crate performance motors currently offered by Chrysler.

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numbers for the popular Chevy LS series of engines.

comp cam selection guide: High-Performance Cams & Valvetrains Billy Godbold, 2023-04-15 Understand the magic of how optimized camshafts extract the most performance from every engine component, eliminating valvetrain guesswork. Camshafts are the coach and conductor of any four-stroke engine from early flatheads to modern Formula 1. Performance engines are amazingly sensitive to how and when the valves to the combustion chamber open and close. The valvetrain configuration and flow characteristics may change significantly between applications, but the fundamental principles are universal. This allows the language, setup, dynamics, energy, and pressure aspects of a valvetrain to be covered in a way that is just as useful for optimizing a sub-15-hp go-kart engine as it is on a 500-plus-hp street engine or modern 1,500-plus-hp NHRA Pro Stock engine. In *High-Performance Cams & Valvetrains: Theory, Technology, and Selection*, farm kid-turned-physicist Billy Godbold combines his quarter-century of experience with valvetrains at Comp Cams, Lunati, Crane Cams, and Edelbrock along with the techniques he uses with professional teams in NASCAR, NHRA, road racing, dirt track racing, offshore racing, and land speed racing, guiding you to think about any valvetrain system with his perspective. Often lighthearted and filled with analogies, this book endeavors to make complex concepts easy to understand without ever watering down important details. Specific configurations and applications are covered, providing techniques and examples for optimizing camshafts and the valvetrain around intakes, headers, superchargers, turbochargers, fuels, carburetors, and modern EFI applications. If you are planning or building a classic hot rod (Chevy, Ford, Chrysler, etc.), modern performance (LS, Hemi, Coyote, or Godzilla), or competition engine (road racing, circle track racing, or drag racing), these practical details show you how any valvetrain system should be modified to extract the most from every component and help you achieve your unique goals.

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comp cam selection guide: Ford Windsor Small-Block Performance HP1558 Isaac Martin, 2010-10-05 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.

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comp cam selection guide: Chevrolet Small Block Parts Interchange Manual - Revised Edition Ed Staffel, 2019-08-15 If you're building a salvage yard stroker motor, looking to make a numbers-matching engine, saving money on repurposing factory parts, or simply looking to see which parts work together, this book is a must-have addition to your library! This updated edition provides detailed interchange information on cranks, rods, pistons, cylinder heads, intake manifolds, exhaust manifolds, ignitions, carburetors, and more. Casting and serial number identification guides are included to help you through the myriad of available parts in salvage yards, at swap meets, and on the internet. Learn what parts can be combined to create various displacements, which parts match well with others, where factory parts are best, and where the aftermarket is the better alternative. Solid information on performance modifications is included where applicable. The first and second generation of small-block Chevy engines have been around for more than 60 years, and a byproduct of the design's extremely long production run is that there is a confusing array of configurations that this engine family has seen. Chevy expert Ed Staffel delivers this revised edition on everything you need to know about parts interchangeability for the small-block Chevy. Build your Chevy on a budget today!

comp cam selection guide: Mopar Small-Blocks Larry Shepard, 2016-10-14 The LA-series small-block Chrysler engine is a powerful, efficient, and quick-revving engine that has dutifully

powered millions of Chrysler/Dodge/Plymouth cars and trucks from 1964 to 2003. And it's also a power unit for many renowned Mopar muscle cars, including the Charger, Barracuda, Challenger, Dart, and others. The LA designates the small-block as Lightweight A, which was a huge improvement over the previous A-generation engine. With its compact size, 50-pound weight savings, thin-wall casting, and polyspherical heads, it cranked out a lot of torque and horsepower, which made it ideally suited for the street and a formidable opponent on the track. Although this venerable small-block has delivered impressive performance in stock trim, it can be easily modified to produce much greater power for almost any application. The LA was offered in 273-, 318-, 340- and 360-ci iterations, and a full range of aftermarket products are offered for these engines. Mopar engine expert and author Larry Shepard identifies the best parts and clearly guides you through the specific techniques to extract maximum performance from this platform. In particular, he delves into the heads, cams, and valvetrain products and modifications that will achieve your horsepower goals. In addition, he provides in-depth build-up instruction for other essential components: blocks, cranks, pistons, rods, ignition systems, intakes, carburetors, and exhaust. If you own an LA small-block-powered Mopar car or truck, this invaluable guidance and instruction will allow you to optimize performance and maintain reliability. Whether you're building an engine for street, street/strip, or racing, this vital information saves you save time, money, and delivers results. Add this to your Mopar library today!

comp cam selection guide: *Modern Engine Blueprinting Techniques* Mike Mavrigian, 2013
Engine production for the typical car manufactured today is a study in mass production. Benefits in the manufacturing process for the manufacturer often run counter to the interests of the end user. What speeds up production and saves manufacturing costs results in an engine that is made to fall within a wide set of standards and specifications, often not optimized to meet the original design. In short, cheap and fast engine production results in a sloppy final product. Of course, this is not what enthusiasts want out of their engines. To maximize the performance of any engine, it must be balanced and blueprinted to the exact tolerances that the factory should have adhered to in the first place. Four cylinder, V-8, American or import, the performance of all engines is greatly improved by balancing and blueprinting. Dedicated enthusiasts and professional racers balance and blueprint their engines because the engines will produce more horsepower and torque, more efficiently use fuel, run cooler and last longer. In this book, expert engine builder and veteran author Mike Mavrigian explains and illustrates the most discriminating engine building techniques and perform detailed procedures, so the engine is perfectly balanced, matched, and optimized. Balancing and blueprinting is a time consuming and exacting process, but the investment in time pays off with superior performance. Through the process, you carefully measure, adjust, machine and fit each part together with precision tolerances, optimizing the design and maximizing performance. The book covers the block, crankshaft, connecting rods, pistons, cylinder heads, intake manifolds, camshaft, measuring tools and final assembly techniques. For more than 50 years, balancing and blueprinting has been an accepted and common practice for maxi

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The New Hemi engine has an aggressive persona and outstanding performance. Powering the Challenger, Charger, Ram trucks, and other vehicles in the Chrysler lineup, this engine produces at least one horsepower per cubic inch. Unleashed in 2003, it has been offered in 5.7-, 6.1-, 6.2-, and now 6.4-liter displacements. With each successive engine introduction, Chrysler has extracted more performance. And with the launch of the Hellcat and Demon 6.2-liter supercharged engines, Chrysler built the highest horsepower production engines ever made, at 707 hp and 840 hp respectively. This third-generation Hemi carries on a high-performance Chrysler tradition and is considered the most powerful and buildable new pushrod V-8 engine on the market today. Mopar engine expert and veteran author Larry Shepard reveals up-to-date modification techniques and products for achieving higher performance. Porting and modifying the stock Hemi heads as well as the best flow characteristics with high lift are revealed. In addition, guidance on aftermarket heads is provided. A supercharger is one of the most cost-effective aftermarket add-ons, and the options

and installation are comprehensively covered. Shepard guides you through the art and science of selecting a cam, so you find a cam that meets your airflow needs and performance goals. He details stock and forged crankshafts plus H- and I-beam connecting rods that support the targeted horsepower, so you can choose the best rotating assembly for your engine. In addition, intake manifold and fuel systems, ignition systems, exhaust systems, and more are covered. With this book, you can transform a New Hemi engine into an even more responsive and faster powerplant. You are able to build the engine that suits all your high-performance needs. p.p1 {margin: 0.0px 0.0px 0.0px 0.0px; font: 12.0px Arial}

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comp cam selection guide: *Chevy Big-Block Engine Parts Interchange* John Baechtel, 2014-04-10 The venerable Chevy big-block engines have proven themselves for more than half a century as the power plant of choice for incredible performance on the street and strip. They were innovators and dominators of the muscle car wars of the 1960s and featured a versatile design architecture that made them perfect for both cars and trucks alike. Throughout their impressive production run, the Chevy big-block engines underwent many generations of updates and improvements. Understanding which parts are compatible and work best for your specific project is fundamental to a successful and satisfying Chevy big-block engine build. In *Chevy Big-Block Engine Parts Interchange*, hundreds of factory part numbers, RPOs, and detailed color photos covering all generations of the Chevy big-block engine are included. Every component is detailed, from crankshafts and rods to cylinder heads and intakes. You'll learn what works, what doesn't, and how to swap components among different engine displacements and generations. This handy and informative reference manual lets you create entirely unique Chevy big-block engines with strokes, bores, and power outputs never seen in factory configurations. Also included is real-world expert guidance on aftermarket performance parts and even turnkey crate motors. It s a comprehensive guide for your period-correct restoration or performance build. John Baechtel brings his accumulated knowledge and experience of more than 34 years of high-performance engine and vehicle testing to this book. He details Chevy big-block engines and their various components like never before with definitive answers to tough interchange questions and clear instructions for tracking down rare parts. You will constantly reference the Chevy Big-Block Parts Interchange on excursions to scrap yards and swap meets, and certainly while building your own Chevy big-block engine.

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comp cam selection guide: *LS Gen IV Engines 2005 - Present* Mike Mavrigian, 2018-08-15 p.p1 {margin: 0.0px 0.0px 0.0px 0.0px; font: 12.0px Arial} The GM LS Gen IV engine dominates the high-performance V-8 market and is the most popular powerplant for engine swap projects. In stock trim, the Gen IV engines produce class-leading horsepower. The Gen IV's rectangular-port heads flow far more air/fuel than the Gen III cathedral-port heads. However, with the right combination of modification procedures and performance parts, you can unlock the performance potential of the Gen IV engines and reach almost any performance target. Engine-building and LS expert Mike Mavrigian guides readers through the best products and modification procedures to achieve maximum performance for a variety of applications. To make more horsepower, you need to flow more air and fuel into the engine; therefore, how to select the industry-leading aftermarket heads

and port the stock heads for superior performance are comprehensively covered. The cam controls all major timing events in the engine, so determining the best cam for your engine package and performance goals is revealed. But these are just a few aspects of high-performance Gen IV engine building. Installing nitrous oxide or supercharger systems and bolting on cold-air intakes, aftermarket ignition controls, headers, and exhaust system parts are all covered in detail. The foundation of any engine build is the block, and crucial guidance for modifying stock blocks and aftermarket block upgrade advice is provided. Crankshafts, pistons and rods, valvetrain, oiling systems, intakes and fuel injection, cooling systems are all covered so you can build a complete high-performance package. Muscle car owners, LS engine builders, and many enthusiasts have migrated to the Gen IV engine platform, so clear, concise, and informative content for transforming these stock engines into top performers for a variety of applications is essential. A massive amount of aftermarket parts is available and this provides guidance and instructions for extracting top-performance from these engines. If you're searching for an authoritative source for the best components and modifications to create the ultimate high-performance packages, then you've found it.

comp cam selection guide: Chevy/GMC Trucks 1973-1987 Jim Pickering, 2020-05-15 Build and modify your 1973-1987 GMC or Chevrolet truck in your garage with step-by-step processes to boost power, add curb appeal, and improve stopping ability, handling, safety, and more. GM's square-body trucks are a solid, simple, and easy-to-find rig--and that makes them perfect for modification. They're American classics, and they've become the hot rods of a new generation. Veteran magazine editor Jim Pickering brings these trucks into focus, taking you through the aspects that make them so popular and modifications you can perform to put a modern spin on their classic looks. He takes an in-depth look at all the major systems in your C10 and covers what can be done to them to turn your classic hauler into the modern hot rod that you want: a truck that's fast, safe, full of curb appeal, and reliable enough to drive whenever and wherever you want. Built in massive numbers during an 18-year production run, these trucks aren't hard to source, but finding a good starting point and mapping out your plan are important. This book covers a lot of territory: how to find a good starter truck, LS power builds and installs, slammed air suspension and coilover systems, automatic and manual transmission choices (including a 6-speed manual conversion), cooling system upgrades, safely adding a modern alternator to factory GM wiring, modifying a mechanical clutch pedal to use a hydraulic master and slave cylinder, making new fuel lines and brake lines to support fuel injection and big brakes, installing a 4-link rear suspension system, fabricating an under-bed mount to hide air suspension components, building exhaust, adding LED lighting, interior restoration, and more. If you're building a square-body truck that you'd actually like to drive regularly, you've come to the right place. There hasn't ever been a more comprehensive, authoritative look at building a complete truck for street use that includes all the steps required to make it work.

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comp cam selection guide: Small-Block Chevy Engine Buildups HP1400 Editors of Chevy High Performance Mag, 2003-01-07 How to build small-block Chevy engines for maximum performance. Includes sections on heads, cams, exhaust systems, induction modifications, dyno-tested engine combinations, and complete engine build-ups.

comp cam selection guide: Ford 429/460 Engines Jim Smart, 2021-12-20 Learn to make incredible horsepower from Ford's most powerful big-block engine design. For years, Ford relied on the venerable FE big-block engine design to power its passenger cars, trucks, and even muscle cars—and why not? The design was rugged, reliable, amortized, and a proven race winner at Le Mans and drag strips across the country. However, as is always the case with technology, time

marches on, and Ford had a new design with many improvements in mind. Enter the 385 family of engines (also known as the “Lima” big-block). Produced from 1968-1998, the 385-series engines were used in multiple applications from industrial trucks to muscle cars and luxury cruisers. In *Ford 429/460 Engines: How to Build Max Performance*, which was written by Ford expert Jim Smart, all aspects of performance building are covered, including engine history and design, induction systems, cylinder heads, the valvetrain, camshaft selection, the engine block, and rotating assemblies. The best options, optimal parts matching, aftermarket versus factory parts, budget levels, and build levels are also examined. The 429/460 engines are a good platform for stroking, so that is covered here as well. Whether you want to build a torque-monster engine for your off-road F-150, a better-preforming version of a 1970s-era smog motor for your luxury Lincoln, or an all-out high-horsepower mill for your muscle car, this book is a welcome addition to your performance library.

comp cam selection guide: How to Rebuild GM LS-Series Engines Chris Werner, 2008

With the increasing popularity of GM's LS-series engine family, many enthusiasts are ready to rebuild. The first of its kind, *How to Rebuild GM LS-Series Engines*, tells you exactly how to do that. The book explains variations between the various LS-series engines and elaborates up on the features that make this engine family such an excellent design. 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.

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