

Unlock the Secrets: How to Build Max Performance Mopar Big Blocks

Are you a proud owner of a Mopar vehicle? Perhaps you own a vintage Charger or a muscle car that's been in the family for generations. The unmistakable rumble of a powerful Mopar engine is a symbol of American muscle and performance. If you want to unleash the full potential of your Mopar vehicle, building a max performance Mopar big block is the way to go. In this comprehensive guide, we will take you through the step-by-step process of creating a Mopar big block masterpiece.

Overview of Mopar Big Blocks

Mopar big block engines are known for their durability, power, and ability to handle high-performance modifications. These engines, also referred to as B-series engines, were produced by Chrysler Corporation from the mid-1960s to the late 1970s. The most popular Mopar big block engines include the 383, 400, and 440 cubic inch models.

Building a max performance Mopar big block requires careful planning, attention to detail, and utilizing the right components. Whether you're looking to restore a classic Mopar or create a fierce street machine, this guide will equip you with the knowledge to achieve your goals.



How to Build Max-Performance Mopar Big Blocks

by Andy Finkbeiner (Kindle Edition)

★★★★☆ 4.7 out of 5

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Step 1: Engine Block Preparation

The foundation of any high-performance engine is the engine block. Start by sourcing a good condition Mopar big block engine block. Look for signs of cracks, erosion, or any other damage. Once you have a suitable block, it's time to clean and prep it for the build.

Step 1.1: Cleaning the Block

Thoroughly clean the engine block with a suitable degreaser and brushes to remove any oil, grime, or debris. Focus on the finer details such as oil passages, coolant galleries, and threaded holes. This will ensure optimal performance and longevity for your engine.

Step 1.2: Inspection and Machining

Inspect the block for any damages, such as cracks or excessive wear. Additionally, measure the cylinder walls with a bore gauge to ensure they are within acceptable tolerance. If necessary, take the block to a professional machine shop for further inspection and possible machining. Proper cylinder bore preparation is crucial for optimal performance.

Step 2: Crankshaft Selection and Balancing

The crankshaft is a key component of any engine, and selecting the right one for your Mopar big block is essential. The crankshaft determines the stroke of the

engine, which greatly affects its overall performance. Depending on your goals and budget, you can choose from stock, forged, or billet crankshafts.

After selecting the crankshaft, it's vital to have it balanced. Balancing the rotating assembly ensures smooth operation and minimizes vibration. Take your crankshaft, connecting rods, and pistons to a machine shop to undergo the balancing process.

Step 3: Cylinder Head Selection and Porting

The cylinder heads play a crucial role in the performance of your Mopar big block. Upgrading to high-performance cylinder heads will significantly improve airflow, combustion efficiency, and power output.

There are numerous aftermarket cylinder heads available for Mopar big blocks. When selecting a set, consider factors such as chamber design, valve size, and material. Additionally, investing in professional porting and polishing services will further enhance airflow and performance.

Step 4: Camshaft and Valve Train

The selection of a suitable camshaft and valve train components is crucial for achieving maximum performance from your Mopar big block. Depending on your desired RPM range and horsepower goals, the camshaft should be chosen accordingly.

Invest in quality lifters, pushrods, and rockers that can handle the increased stresses of a high-performance setup. Upgrading to roller rockers is also recommended for better stability and reduced friction.

Step 5: Intake Manifold and Carburetor Selection

The intake manifold and carburetor work together to deliver fuel and air into the combustion chamber. Matching the intake manifold and carburetor to your engine's specifications is vital for optimal performance.

Consider factors such as the engine's displacement, RPM range, and intended usage when selecting an intake manifold. Similarly, choose a carburetor that is properly sized to deliver the right fuel-air mixture at various throttle positions.

Step 6: Exhaust System

An often overlooked aspect of maximizing performance is the exhaust system. Upgrading to headers and a high-flow exhaust system will drastically improve the engine's ability to expel the combustion byproducts efficiently.

Invest in high-quality headers that are specifically designed for Mopar big blocks. Pair them with a properly sized exhaust system to achieve the desired sound and performance.

Step 7: Fuel System and Ignition

To complete your max performance Mopar big block, ensure your fuel system and ignition components are up to the task. Consider upgrading to electronic fuel injection for better fuel control and responsiveness. Upgrading your ignition system to a performance-oriented setup will also enhance overall combustion efficiency.

Building a max performance Mopar big block is a journey that requires careful planning, attention to detail, and the selection of quality components. By following the steps outlined in this guide, you can unlock the true potential of your Mopar vehicle and enjoy the power and performance it was meant to deliver.

Remember, building a max performance engine requires expertise and proper tools. If you are not comfortable with any of the steps outlined or lack the resources, it is always advisable to seek professional assistance. Now go unleash the beast that lies within your Mopar big block!



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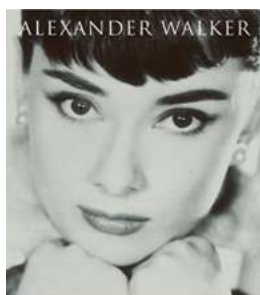


The photos in this edition are black and white.

Starting in the early 1960s, Mopar Wedge engines powered a wide range of Chrysler muscle cars, such as the Dodge Charger, Daytona Charger, Super Bee, Challenger, as well as Plymouth Barracuda, Superbird, Road Runner, GTX, and others. Many times these high-powered muscle cars were pursued by equally high-powered Dodge and Plymouth police cars that were also packing Mopar big-block power under the hood. In 1978, the last of the Mopar big-blocks rolled down the production line, but in an odd twist of fate, the popularity of the Mopar surged again in street and strip cars during the 1980s. By the 1990s, the big Mopar engine was more popular than ever.

This book covers how to build Mopar's 383-, 400-, 413-, 426-, and 440-ci engines to power levels of 600 to 900 hp. How to Build Max-Performance Mopar Big

Blocks discusses how to properly budget your engine build for a specific performance target and how to select a stock or aftermarket block for the desired performance level. The reciprocating assembly (crankshaft, connecting rods, and pistons) is examined in detail, to help you select the right design and material for durability and performance requirements. Cylinder heads and valvetrain configurations are crucial for generating maximum horsepower and torque. This volume discusses all the stock modification options, the best setups, selecting the right machine work, the latest aftermarket head options for producing huge horsepower, and building stroker engines. The camshafts and lifters chapter compares and contrasts use of hydraulic flat tappet, hydraulic roller, and solid flat tappet cams. In addition, the book explains how to optimize fresh and spent fuel, discussing single- and dual-plane intake manifolds, as well as the exhaust-system design to optimize scavenging. Also details engine builds at 600, 700, 800, and 900 horsepower levels to provide insight and reveal what can be done with real-world component packages.



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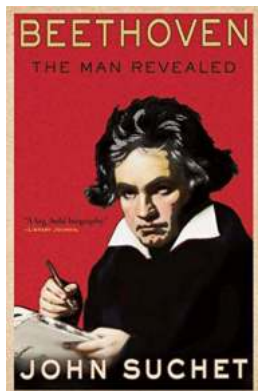
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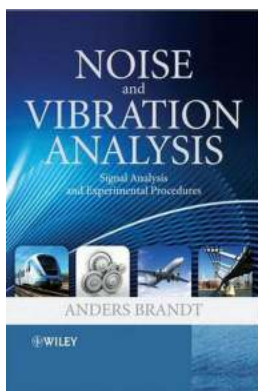
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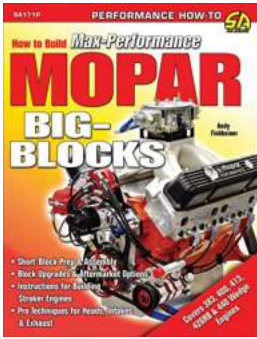
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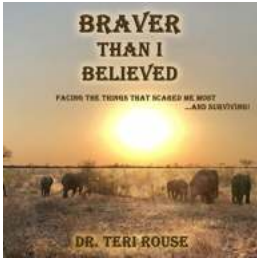
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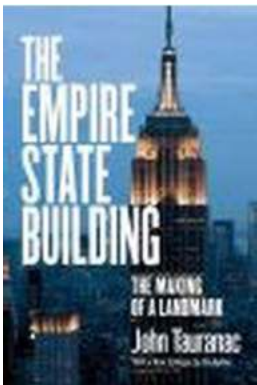
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