

[Table Of Contents](#)

**Acknowledgments**

**Introduction**

**Chapter 1:**

Blocks

Block Design

Identification

Basic Features

Block Oiling

Motor Mounts

Core Shift

Machining

Main Caps

Special Features and Operations

**Chapter 2:**

Crankshafts and Connecting Rods

Production Cranks

High-Performance Street Cranks

Race Cranks

Material

Full-Radius Journals

Crank Prep

Bearings

Vibration Dampeners

Connecting Rods

**Chapter 3:**

Pistons and Rings

Production Pistons

Aftermarket Pistons

Piston Profile

Compression Ratio

Piston Design

Piston Pins

Piston Rings

#### **Chapter 4:**

Camshaft, Lifters and Cam Drive

Production Cams

Aftermarket Cams

Camshaft Technology

High-Performance and Race Cams

Cam Selection Process

Cam Installation

Tappets

Cam Drive

Timing Sets

Oil Pump Drive

#### **Chapter 5:**

Cylinder Heads

Identification

Production Cylinder Heads

Head Spec Comparison

Aluminum Heads

Cast-Iron Heads

Bare Heads

Cylinder Head Selection and Prep

High-Performance Valve Job

Special Head Considerations

Valves

Head Gaskets

**Chapter 6:**

Valvetrain

Oiling System

Pushrods

Rocker Arms

Valvesprings

Valvetrain Parts

**Chapter 7:**

Intake Manifolds

Production Intakes

Aftermarket Intakes

Fuel Distribution

Manifold Selection

Manifold Prep

Porting Matching

Carburetors

Throttle Body

Fuel Pump

Fuel Injection

Nitrous

Superchargers and Turbos

Final Installation and Prep

**Chapter 8:**

Oiling System

Oiling Hardware

Oil Pump

Breathers and the PCV

Oil

Oil Filter

Windage Tray

Oil Pan

Oil Pump Drive

Dry Sump

## **Chapter 9:**

Ignition System

Spark Advance

Distributors

Aftermarket Ignition Systems

Advance Curve

Ignition Timing

Spark Plugs

Distributor Drive

Coil and Ballast Resistor

The ECU/ECM

Wiring

## **Chapter 10:**

Fuel System and Tuning

4-Barrel Carb System

Fuel Injection System

Fuel Magnum MPI

Fuel Injectors

Fuel Lines

Airflow

Carb Tuning

Magnum MPI Upgrade

A-Engine MPI Conversion

Nitrous Oxide

Supercharger

## **Chapter 11:**

Exhaust System

Manifold

Header

Flanges

Merge Collectors

Oxygen Sensor

Installation Clearance

Coatings

Pipe Crossovers

Mufflers and Catalytic Converters

Cat-Back Systems

Tailpipes Gaskets

## **Source Guide**