Table Of Contents

Acknowledgments

Dedication

Introduction

Chapter 1: The Gen III Hemi

Hemi Engine Names

Production Engines

Family Identification

Unique High-Tech Features

The Foundation Block

Crate Engines

Chapter 2: Is It Time to Rebuild?

Troubleshooting

Tools Required

Work Space

Multi-Point Injection (MPI)

Pulling the Engine

Chapter 3: Engine Disassembly

Fully Assembled Configuration

Disassembly Process

Top End Disassembly

Short-Block Disassembly

Chapter 4: Inspection

General Engine Specifications

Inspection Process

Cylinder Block

Crank and Bearings

Rods and Rod Bearings

Pistons
Camshaft
Tappets and Guides
Cam Drive
Oil Pump and Oiling System
Cylinder Head
Head Gasket
Valves
Valvetrain
Ignition System
Coils
Chapter 5: Parts Selection
Choices
Block
Crankshaft
Rods
Pistons
Rings
Heads
Camshaft
Valvetrain
Induction
Ignition System
Bolt-Ons and Upgrades
Chapter 6: Big Cubic Inches (Strokers)
Stroker
Displacement
Basics
Crank, Rod, and Pistons
Stroker Kits

Calculations

Chapter 7: Induction Upgrades and Changes

Supercharging and Turbocharging

2015–2017 Fuel Injection Systems

Carburetion and Throttle Body Fuel Injection

MPI Throttle Bodies

Intakes

Chapter 8: Machining Preparation and Preassembly

Preassembly

Cylinder Block

Crank Grinding

Rods

Engine Balancing

Clearance Checks

Rod and Piston Assembly

Ring Gapping

Cylinder Head

Camshaft

Cam Drives

Valvetrain Geometry

Hydraulic Lifter

Intake Manifold

Oiling

Cleaning Process

Safety

Chapter 9: Final Assembly

Engine Block

Rotating Assembly Crankshaft

Piston and Rod Installation

Camshaft Install

Oil Pump, Oil Pan, and Front Cover Installation

Tappets

Cylinder Head Assembly

Cylinder Head Installation

Valvetrain Assembly and Installation

Chapter 10: Engine Install Basics

Engine Install Process Highlights

Final Double Checks

Break-in Procedures

Source Guide