

## Table Of Contents

### **Introduction**

#### **Chapter 1: Development and Design**

History

Internal Specifics

#### **Chapter 2: Engine Block**

Block Identification

Washing and Magnafluxing

What to Check on W Blocks

Inspection Process

Block Preparation

Oiling System

Aftermarket Manufacturers

#### **Chapter 3: Crankshafts, Rods and Pistons**

Crankshafts

Connecting Rods

Pistons

Machining

#### **Chapter 4: Cylinder Heads**

Design Features

348 and 409 Differences

Machining

Head Selection

Stock Head Modifications

Aftermarket Head Manufacturers

#### **Chapter 5: Camshafts and Valvetrain**

Stock Cam Timing Specs

Flat-Tappet Camshafts

Roller Camshafts

Lifters

Cam Selection

Aftermarket Manufacturers

Pushrods

Rocker Arms

Valves

Valvesprings, Retainers and Locks

Timing Chain Set

## **Chapter 6: Induction and Ignition**

Intake Manifolds

Carburetors

Ignition

## **Chapter 7: Headers and Exhaust**

Header Development

Exhaust Design

## **Chapter 8: Cooling System**

Design Factors

Cooling Capacity

Radiators

Water Pump

Fans

Airflow

## **Chapter 9: Stroker Engines**

Stroker Math

Clearancing

Cam and Head Selection

Four-Bolt Main Bearing Conversion

Stroker Kits

Popular Combinations

## **Chapter 10: Teardown and Inspection**

Removal

Inspection

Cleaning

Testing

Measuring Parts

## **Chapter 11: Engine Assembly**

Proper Lubrication

Subassemblies

Block

Valves and Hardware

Cam Bearing Installation

Main Bearings

Crankshaft

Camshaft

Pistons

Degree the Camshaft  
Front Dampener  
Oil Pump, Windage Tray and Oil Pan  
Cylinder Head  
Intake and Ignition

**Source Guide**