

# Chapter 1 – How To Use This Book

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The general philosophy behind this book's layout is to allow quick access to information. The book consists of ten chapters and twelve appendices. Chapters 2 through 9 each represent one production year in the 1960s (e.g., Chapter 2 covers 1962, Chapter 3 covers 1963, and so on). Each chapter includes an introductory narrative followed by extensive photo documentation. The introductory narrative is designed to give a general overview of the production year, whereas the photo documentation provides the details. The photo documentation for each production year is divided into ten different sections, roughly related to major engine systems. These systems, their codes, and their related components are as follows:

- A – Engine Core** (engine blocks, main bearing caps, crankshafts, crankshaft bearings and seals, connecting rods, pistons and piston rings, harmonic dampers, and standard crankshaft pulleys)
- B – Valve Train** (cylinder heads, head gaskets, valves, valve springs and retainers, valve guide seals, push rods, rocker arms and studs, tappets, camshafts, camshaft sprockets, thrust plates and spacers, timing chains)
- C – Induction** (intake manifolds, carburetors, throttle linkage, choke tubes, air cleaners and decals, fuel pumps and filters, fuel lines)
- D – Exhaust** (exhaust manifolds, locking tabs)
- E – Lubrication** (oil pumps, oil pressure senders, oil pan, oil filters, oil dipsticks and tubes)
- F – Ventilation** (oil caps, road draft tubes, PCV valves, valve covers and decals)
- G – Cooling** (front timing chain covers, water pumps, temperature senders, standard fans and spacers, water pump pulleys, thermostats and thermostat housings)
- H – Ignition** (distributors, coils, ignition wires, spark plugs)
- J – Generator/Alternator** (generators from 1962 to 1964, and alternators from 1962 to 1969)
- K – Accessories** (vacuum ports, power brake tubes, power steering, air conditioning, thermactor systems)

Note: Some components are actually part of several systems. However, to simplify presentation, each component is covered in only the system most closely related to the component's function.

For assistance in locating components, several guides are available. First, a table of contents is provided which lists the beginning page of each major section within each chapter. In addition, a detailed alphabetical index is provided at the end of the book which lists each component and assembly. With each listing are the page and photo numbers.

In the photo sections, similar components are grouped together to the maximum extent possible. Some groups may have only one picture, where others may exceed ten. Groups requiring more than one page to present are divided into smaller groups, or placed across facing pages. In this latter case, arrows will assist in locating the photo—e.g., (a→).

The logical grouping of components did occasionally cause similar components to be a little out of sequence within the section. For example, when discussing 2V carburetors, it might be more logical to also discuss the 2V throttle linkage at the same time, rather than discuss 2V and 4V carburetors together, and then discuss all throttle linkage. The "Accessories" section was particularly difficult to sequence because thermactor systems (1966/67), power steering, and air conditioning can be found in any combination, and are all interrelated. Also, for the sake of convenience, a summary of major air conditioning system components for the years 1965 through 1969 is presented as the last photo grouping in the Accessories section. To insure all material on a particular component/system is covered, it is best to scan nearby photo groupings, or refer to the photo index.

Each photo grouping is given a reference alphanumeric code. The first number of the grouping code always represents the year. The letter following the year is related to the major system section. The last number is just a sequence code. For example, **4C5** will deal with 1964 Induction, and is the fifth grouping of photos dealing with that system.

The grouping code allows rapid access to an area of interest without using the page numbers. The beginning and ending codes for each set of facing

pages is presented in the page headers, much like those in a dictionary. Major systems and their associated code letters are presented at the bottom of each even numbered page where pictures are printed.

The book's basic structure is one that follows the evolutionary process of Ford's first small block V8. Chapter 2 begins with a detailed look at the 221, and then progresses through time, identifying each change that occurred. Each subsequent chapter continues this process of examining change. Therefore, subsequent chapters should not be considered "stand alone" chapters, but more like supplements to the chapters which precede it. If a particular component is not covered in the chapter of interest, it is because the component was unchanged from the year before. Therefore, it may be necessary to refer back through previous chapters to find the component in prior years.

The story of the small block V8 would be woefully inadequate without the included appendices of Volume II. These are packed full of information gathered from a multitude of sources. They also cover multiple years, making comparisons of components/systems easier. The appendices are:

- A – Engine Application, Tags, and Colors** (contains a chart showing which vehicles received which engines as optional V8s; lists the engine code letters used in vehicle serial numbers; describes and decodes the engine tag numbers; lists all the engine change levels, dates when changes occurred and their significance, if known; shows a chart for valve cover and air cleaner colors; lists all external engine components and their colors)
- B – Belts, Pulleys, and A/C Magnetic Clutches** (lists all belt sizes for all vehicles and their accessories; lists belt applications, markings, original part numbers, 1970 replacements, and J-numbers; lists all crankshaft, generator, alternator, water pump, power steering, air conditioning idler, and T/E pump pulley applications, sizes, and markings; shows pictures of all A/C idler pulleys; describes and pictures all A/C compressor magnetic clutches)
- C – Carburetors** (lists all carburetor applications and tag numbers; decodes tag numbers; lists Ford replacement carburetors; gives jet sizes, venturi sizes, bore diameters, booster codes, and carburetor recognition features; lists major carburetor settings and adjustments; lists all carburetor spacers and casting numbers; discusses T/E systems and hose markings)
- D – Distributors** (lists all distributor applications and stamped numbers; lists Ford replacement distributors; describes distributor types; lists cam settings for 1965/69 distributors; lists 1968/69 vacuum control systems; presents all distributor advance curves; lists original ignition wire sets)
- E – Engineering/Casting Numbers** (lists engineering/casting numbers found on cylinder blocks, timing chain covers, cylinder heads, harmonic dampers, water pumps, thermostat housings, intake manifolds, and exhaust manifolds)
- F – Fans, Spacers, and Viscous Clutches** (lists fan applications for all vehicles; gives fan descriptions; gives fan spacer lengths; gives fan and spacer markings; lists viscous clutches and applications)
- G – Camshafts** (lists applications and markings; gives cam specifications)
- H – Cylinder Heads** (lists applications and combustion chamber volume; shows chamber shape; discusses compression ratios; defines the results of milling on compression ratios)
- I – High Performance Options** (describes the 289 high performance engine and lists unique components with their part numbers; lists factory 289 high performance exhaust systems; lists Ford dual exhaust kits; lists Ford COBRA high performance engine, cylinder head, induction, camshaft, piston, head gasket, distributor, oil pan, clutch, scattershield, valve cover, dress-up and medallion kits; gives part numbers from Ford's 1969 Muscle Parts program, including installation of high performance mechanical and hydraulic cams, installation of 351 Windsor cylinder heads, installation of GT40 valves in 351 Windsor heads, and conversion of a 289 into a 289/302 high performance engine; shows pictures of many of Ford's over-the-counter high performance 289/302 components)
- J – Technical Service Bulletins** (includes all major Ford and Mercury bulletins on 1962 through 1969 small block V8s; bulletins segregated into the same major system sections used in the chapters)
- K – Accessories Identification** (gives generator and alternator stamped numbers and pulley applications; gives 1965/69 Ford P/S pump tag numbers; gives A/C compressor tag numbers)
- L – Abbreviations, Sources, and Credits** (lists all abbreviations that may be used throughout the book; lists many of the sources used to support documentation; lists photos from friends; lists photos highlighted from magazines; lists Ford factory photos and illustrations)