



The Illustrated  
**Buyer's  
Guide to** **Used**  
**Airplanes**  
SIXTH EDITION

**BILL CLARKE**

# **The Illustrated Buyer's Guide to Used Airplanes**

Sixth Edition

Bill Clarke

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# Preface

ARE YOU THINKING ABOUT AIRPLANE OWNERSHIP? At one time or another, nearly every pilot considers owning his or her own airplane. Airplane ownership is not difficult, although, like everything else, you must first know and understand certain complexities. Since most of these complexities involve money, you must thoroughly understand airplane ownership to prevent later financial grief.

In 1980, a new Cessna 172 sold for about \$39,000. By 1986, the same model of airplane carried a price tag of nearly \$75,000. Later that year, the 172 marched off into history as production stopped. The world's most popular four-place airplane had been priced out of existence. At the same time, top-of-the-line airplanes such as the Bonanza A36 were sporting prices of nearly \$250,000. In 1996 Cessna reintroduced the 172—at a price of \$124,500—and by 1998 the A36 was sticker-priced at over \$425,000. By 2004, the Cessna was selling for in excess of \$170,000 and the A36 for more than a half-million dollars.

Although high prices are a way of life in our society, it appears that aviation costs have soared when compared to the average cost of living. Many factors contribute to the phenomenon, including the high cost of labor, ever-increasing premiums paid for product liability insurance, and increased charges for materials. Regardless of the reasons, most pilots are financially excluded from the new airplane market. A good used airplane, however, is a viable alternative to an expensive new airplane. As a matter of record, in 2003 the Aircraft Owners and Pilots Association (AOPA) reported that 625,011 pilot certificates were held and 160,850 piston-powered general aviation airplanes were active (most over 30 years old).

*The Illustrated Buyer's Guide to Used Airplanes*, 6th edition, is written to help you, the prospective used airplane buyer, to successfully search for a suitable and cost-effective airplane (and not get financially burned in the process). Part 1 discusses the pros and cons of airplane ownership, and explains how to determine the size and type of aircraft most suitable for your

flying needs. It then explains how to locate and evaluate a used airplane and read those cryptic used airplane advertisements.

You will learn about the government paperwork required for airplane ownership, how to select a home base, and how to save money by doing your own preventive maintenance. Care and protection of your aviation investment is explained.

Although you may have a basic idea of what a particular make and model of airplane looks like or what some of the specifications are, you must have a ready source of additional, specific, and accurate information. Part 2 is such a source, containing historical information, photographs, and specifications for most airplanes that can be found on today's used market. Alternative aircraft are also investigated, including floatplanes, personalized homebuilts, serene gliders, and the fast, powerful war birds.

Part 3 provides stories and other pieces of information from the hangar and airport that can provide insight into particular makes and models of airplanes. Then follows the airworthiness directive information, often requiring expensive and complex maintenance and repairs, that is the word of law from the government. The airworthiness directives that apply to airplanes described in this book are listed and briefly explained.

A new chapter, Light-Sport Aircraft, has been added to this edition. Here you will find information about a new category of airplanes and the pilots who can fly them.

The appendixes contain the NTSB aircraft accident chart, which rates the various makes and models of airplanes. They also list points of contact for FAA offices, state aviation agencies, manufacturers, and airplane type clubs. This includes addresses, telephone and fax numbers, and Internet information (where available).

Also contained in the appendixes is the all-important used airplane price guide. This is an up-to-date listing of typical used airplane selling prices and a means for determining real value for a specific airplane. Following the price guide is a list of the currently registered makes and models from the FAA Registry. These numbers indicate the potential numbers of a specific make and model that can be found on the used airplane market.

In summary, *The Illustrated Buyer's Guide to Used Airplanes*, 6th edition, is written to help you in economical decision making and to guide you around the many pitfalls you might encounter when buying and owning a used airplane.

Bill Clarke

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# Part I

## The Art of Buying and Owning an Airplane





# I

# The General Aviation Market

WHERE IS THE GENERAL AVIATION MARKET GOING? That certainly is a very good question, but unfortunately there are no solid answers. Although there is a fairly accurate history of the general aviation market, only forecasts exist for the future.

The general aviation market, as analyzed by itself, has experienced a general increase in airplane prices over the past years and a very sharp price increase in the last 10 years. The recent increases are steep enough that quality used airplanes have often been purchased, operated, and properly maintained for several years and then sold for a profit. The overall general aviation market is fueled by *supply and demand*.

What is supply and demand? In simple terms, it determines market prices for everything—including used airplanes. It consists of the immediate supply of a sought-after product and the prices that purchasers are willing to pay for that product.

No manufacturer of small airplanes produces an appreciable number of aircraft on an annual basis. Some build fewer than one plane per month and others build nothing at all. This has caused a short supply of new airplanes and a dwindling supply of used airplanes for a market that is very alive with prospective purchasers. The supply of used airplanes gets smaller each year because of attrition (permanent removal from the fleet because of age, damage, and maintenance expense).

The only major exception to low production numbers is Cessna. Since reentering the single-engine piston market, it has produced more than 1000 model 172 and 182 airplanes.

## PRODUCTION LEVELS

During the mid- to late 1970s, U.S. production levels of single-engine general aviation airplanes ran from 10,000 to over 14,000 planes annually. This was the heyday of general aviation (Fig. 1-1). The production levels of the 1970s were exceeded only by the year 1946, when some small airplane factories turned out an airplane every hour and the annual production level exceeded 25,000 airplanes.

Records for the most recent two years show current total production levels of the same types of airplanes to be increasing—increasing, that is, over the “under 500 airplanes yearly (only 444 in 1994)” reported for the four-year period just prior, which was the lowest since World War II, when production was not allowed, due to the war effort. The total numbers may be somewhat inaccurate, as many of the airplanes included are not suitable for pilot ownership (Cessna Caravan, Piper Malibu, and twin engine airplanes, for example, which are meant for charter work), but do show the trend.

During 1978, Cessna manufactured 7423 piston-powered, single-engine airplanes. From 1988 through 1996, none were produced. In 1996, small, active airplane makers in the United States produced (or estimated production of) a total of 575 new airplanes of the types covered in this book. Subtract the approximate 145 Caravans and Malibus built for a total of 430 airplanes considered to be owner/pilot airplanes. The active manufacturers included American Champion, Bellanca, Cessna, Commander, Maule, Mooney, Raytheon (Beech), and Piper.

What caused this situation? Why did production nearly stop? It’s hard to say, and the finger of blame doesn’t point in only one direction. However, there is little doubt that product liability on the part of the manufacturers was the major contributing factor.

How bad are the effects of product liability? The NTSB (National Transportation Safety Board) found that the causes of 203 crashes of Beech airplanes between 1989 and 1992 included weather, poor maintenance, and



**Fig. 1-1.** Heyday shot of a Cessna 172, when these planes were being built in large numbers.

pilot or air-control errors. None were blamed on faulty airplane design. Yet Beech spent an average of \$530,000 per incident defending itself from product liability suits. The other airplane manufacturers suffered a similar fate under product liability claims.

In the period of 15 years after the bubble burst, it is estimated that 100,000 jobs in the general aviation market were lost as a direct result of product liability. For example, Cessna stopped producing piston-engine airplanes because of the high cost of defending itself in product liability suits. Other factors affecting the market include the lack of an economical means to certify new models of airplanes, which prevents startup manufacturers from entering the market, and the ever-increasing cost of labor and materials. These factors have resulted in the continued increase in selling prices of new airplanes and, therefore, used airplanes.

## **Exports**

A less-known factor involving the high price of used airplanes is the overseas market. Suffering from the lack of American production of small airplanes, the overseas market has added to the supply and demand problem.

According to the U.S. Department of Commerce, during the most recent years of record (1990 to 1995) an average of over 180 general aviation single and multiengine airplanes (the type of planes covered in this book) were exported from the United States annually. Although these numbers don't sound alarming, as there are over 100,000 small airplanes active in the U.S. registry, only the best used airplanes are shipped overseas. Ercoupes, old rag wings, and even many of the planes built in the 1960s and 1970s don't qualify; only the best of the best airplanes are finding homes overseas.

An additional export category is the new airplane. Nearly 25 percent of all new single-engine airplanes are exported.

Fact: The average age of all the two- and four-place small airplanes in the U.S. general aviation fleet is over 30 years.

## **More numbers**

According to the figures published by GAMA (General Aviation Manufacturers Association) and the AOPA (Airplane Owners and Pilot's Association), there were 165,073 active single-engine airplanes in the U.S. general aviation fleet in 1990. By 1998, that number had dwindled to 157,056 airplanes. This drop in number is consistent with the low production levels of airplane manufacturers. As older airplanes become uneconomical for further use, they are not being replaced with new models; they are simply being removed from the supply of used airplanes. The 2003 total was 156,098 airplanes.

Over the past several years, approximately 25 percent of the small-airplane fleet has changed hands yearly.

GAMA forecasted that the drop in the annual production number would end after 1996 and begin to rise slightly starting in 1997. In early 1999, it appeared they were correct.

As an interesting side note, the total number of reported general aviation accidents has dropped significantly since 1980, when the production levels also dropped. The drop in accident numbers is therefore more a result of fewer airplanes and less flying than a result of improved safety. The fatal accident levels fluctuated from 1.69 to 1.87 incidents per 100,000 hours flown during the same time period, indicating no significant change.

## **The only increase**

The single category of airplanes whose activity numbers are showing an increase are the experimental amateur-built (homebuilt) airplanes. There were 6854 active homebuilt airplanes in 1993 and 21,950 by 2003. Homebuilding is done for reasons such as personal accomplishment, learning experience, and creating a specialized airplane. Homebuilding is seldom considered for economic reasons, although it can, in some cases, make for inexpensive flying.

## **TURNAROUND**

Public law 103-298, the GARA (General Aviation Revitalization Act of 1994), reduced the exposure of airplane manufacturers to product liability lawsuits. Rather than a manufacturer being held responsible for possible or alleged product flaws through the entire life of an airplane, the exposure period is now limited to 18 years from the date of first delivery.

This means that airplanes built prior to 1987 have been removed from product liability exposure. Over the next few years, the vast majority of the small-airplane fleet will be removed from the product liability arena due to the small number of aircraft being produced. Remember that the average small airplane was built in 1967 and is, therefore, well over 30 years old.

The immediate effect of GARA was the industry-claimed resurgence of airplane manufacturing. Cessna Aircraft again started production and between 1996 and 1999 built over 1000 small piston-powered airplanes for the general aviation fleet. Beech (Raytheon), Mooney, and New Piper continued and saw increases in production. The smaller companies of American Champion, Aviat, Lake, and Maule provided for their specialized markets. Other familiar old names planned comebacks, including Luscombe, Meyers, and Swift. A few new names entered the mix, including Cirrus, Diamond, Lancair, and Zenith. As of this writing, only the Katana is actually seen on the used market. The viability of the others remains to be seen (Fig. 1-2).





**Fig. 1-2.** *The 1996 Cessna 172, signifying the restart of general aviation.*

## 1996 production numbers

In the first quarter of 1996, the heavily touted resurgence of small airplane production amounted to only 119 airplanes. However, the trend held and about 534 airplanes were built for the general aviation market in 1996. Numerically, this didn't show any significant gain over immediately prior years.

## 2004 production numbers

In early 2005, the General Aviation Manufacturers Association (GAMA) released its final production figures for 2004. The following is a breakdown of two- and four-place single-engine and light twin production by manufacturer and model:

### AMERICAN CHAMPION

7ECA	2
7GCAA	12
7GCBC	24
8GCBC	18
8KCAB	38

### AVIAT

Pitts	9
Husky	33

### CESSNA

172	236
182	329
206	89