

General Aviation SAFETY FACTS

Lightplane safety record, while still not perfect, is far better than painted and can be better understood by emphasizing the positive, industry official declares

EDITOR'S NOTE: On September 14, the Utility Airplane Council of the Aerospace Industries Association held a conference-briefing in Washington, D.C., titled "General Aviation Today And Tomorrow." Its purpose was to foster greater public understanding of general aviation's present posture and its future promise.

One of the highlights of the event was its session on safety. Remarks of Frank Martin as a member of the UAC Education Committee reflect the safety philosophy of that group and serve as the basis for this article.

One area of general aviation which is constantly uppermost in the minds of several Government agencies and the entire general aviation community is safety. It is an area that forms an intrinsic part of the future of our industry and one that receives a great amount of consideration. It is an area of much apprehension and misunderstanding on the part of the general public.

It is our conviction that the industry has a greater degree of interest in safety than does any other group. There are two reasons for this: First is a moral obligation. Second is a self-interest. A manufacturer cannot continue to exist with a poor safety record.

We are not satisfied with the present safety record. We cannot be satisfied as long as one human life is endangered. There must be ceaseless effort to seek perfection even though perfection may be unattainable.

We believe that the safety record of general aviation is better today than is generally stated. This belief is founded on two bases: The number of airplanes in active use, and the total utilization of these airplanes, are hazy estimates, and, we believe, exceedingly low estimates; and despite the lack of

definitive information regarding usage, the available statistics indicate a slight rise in the number of fatal accidents compared with substantial increases in the number of airplanes and utilization of the airplanes.

Let's go back to the first year that CAB kept accident records, 1939. When we look at the raw numbers of accidents (Figure 1), there is what could be interpreted as a disturbing picture. Immediately after World War II there was an increase in total accidents, fatal accidents and number of fatalities. However, in about 1949 this leveled off and has continued as almost a straight line since then.

In 1949 the total accidents were 5,459 compared to 5,070 in 1964. The fatal accidents in 1949 numbered 562 compared to 505 in 1964. Fatalities in 1949 were 896, compared with 1,058 in 1964. With slight ups and downs, the actual numbers of accidents, fatal accidents and fatalities are about the same today as they were in 1949. But raw numbers reveal only one part of the story.

Let's compare just the number of airplanes. Up to 1951 all airplanes—active and inactive—were grouped together. In 1939 there were 13,000 total airplanes. In 1951, records began to separate active and inactive airplanes. At this time there were 60,000 active airplanes and this has increased to more than 87,000 in 1964. When we compare the nearly straight line of fatal accident numbers with the sharply climbing line of active airplanes, the improvement in general aviation safety becomes pretty obvious.

In addition to more airplanes, each airplane is flying more as the years go by. Looking at the utilization of airplanes during this period, the flight miles have doubled since 1949 and increased almost 12 times since 1939 (Figure 2).

Converting this to the accident rate per million plane miles, there has been a vast improvement. In 1939 there were 12.4 accidents for every million plane miles, by 1949 this had decreased to 4.8, and today is 2.4. Fatal accidents—really the ones of deep concern—de-

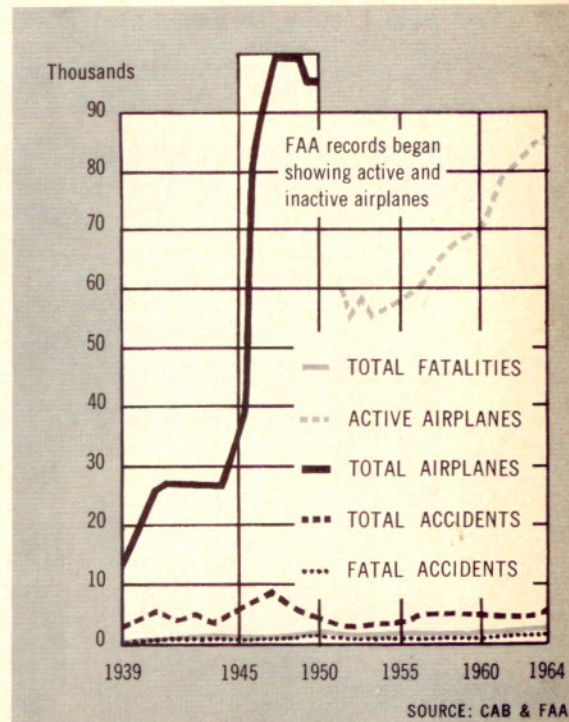
clined from 1.1 per million plane miles in 1939, to 0.4 in 1949, and today stand at 0.2 (See Figure 3). This, let us emphasize, is airplane miles, not passenger miles.

An examination of the practices of leading insurance companies toward insuring the lives of pilots and passengers of general aviation airplanes shows that these dollars and cents statisticians are recognizing the excellent safety record.

One hundred and twenty-two major insurance companies responded to a questionnaire. Here are some of the results.

Question: Does your company define the piloting of—or riding as passengers

FIGURE 1. While number of active general aviation aircraft have increased sharply and steadily since 1954, both total accident and fatal accident rates have remained comparatively stable, as reflected here



by FRANK MARTIN
Vice President—Marketing
Cessna Aircraft Company

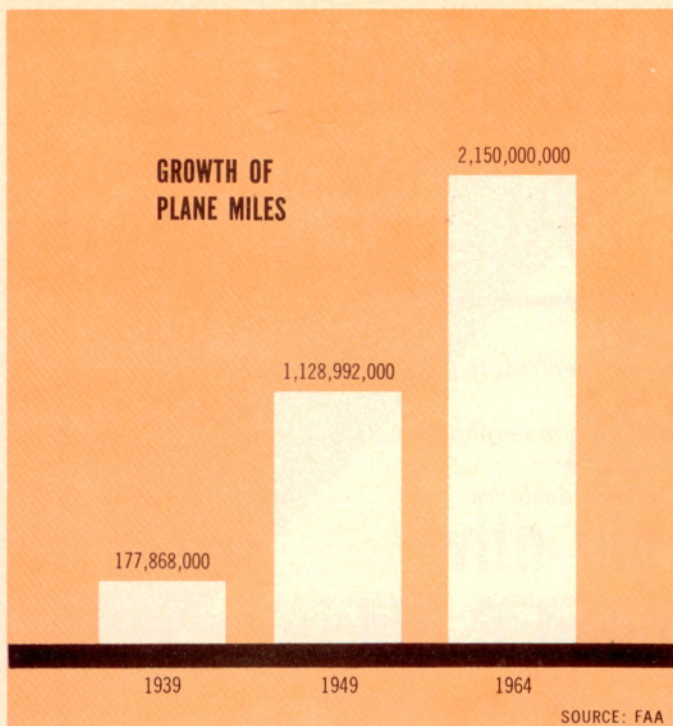


FIGURE 2. Greater use of larger active general aviation fleet is reflected in increased number of miles flown. In the past 10 years, travel volume has almost doubled

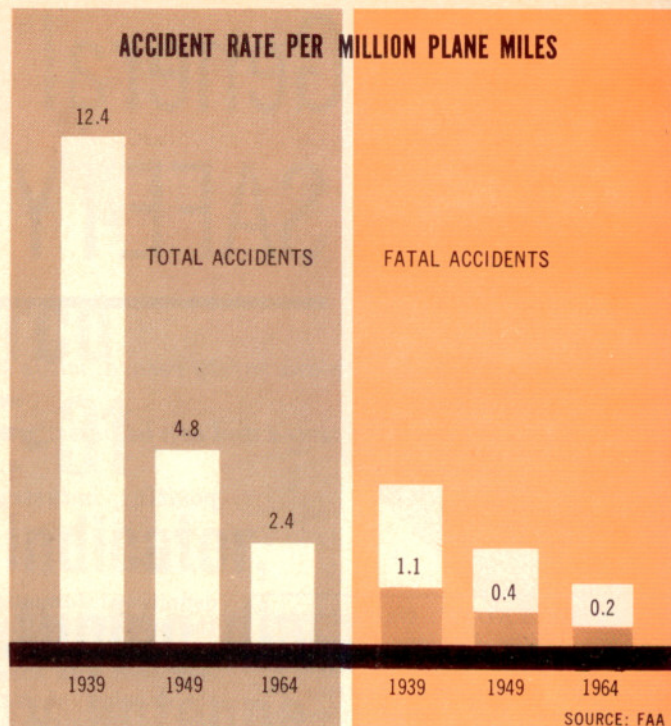


FIGURE 3. Comparison between total accidents and fatal accidents in general aviation per million plane miles flown shows remarkable record of improvement over past 25 years

Illustrations by AIA Utility Airplane Council

in—privately owned airplanes to be a hazardous occupation for which an additional premium is charged?

Answer: As a pilot, 80.3% of the companies do not charge extra premiums when the pilot meets their age-experience-exposure qualifications. As a passenger, 76.5% of the companies without qualification do not charge extra premiums for riding as a passenger, and an additional 17.2% do not require

extra premiums when certain qualifications are met.

Of course, we do not know what the position of these same insurance companies were 10, 20, or 30 years ago, but from the personal experiences of all of us, we can be sure that it was not so common a practice to treat pilots as “nonhazardous” risks.

In this connection you may wish to examine your own insurance policies to see if they are up to date regarding aviation clauses and riders.

One of the questions in the survey asked: “What procedure must an individual follow to secure removal of the ‘aviation’ rider if his present aviation activity status would not require such a rider to a new policy written on his life?” Here, 97.5% of the companies have said the insured must request the removal of the restriction or rider.

These firms which look at safety with a cold, critical eye are recognizing that general aviation safety is not only excellent today, but constantly improving.

The picture of an excellent safety record and an improving one comes into sharp focus when we see the utilization growth and accident rate on a comparative basis (Figure 4). In this case, the year 1957 was used as a base because it was in this year that a special study of general aviation was made by FAA on which estimates were based until a similar study was made in 1962. With 1957 being seven years back, we have gone back another seven years to show the trend. These two subjects cannot be shown on the same scale, because in plane miles we are talking in the billions and in fatal accidents

the figure is only in fractions. The bars on the right of Figure 4 show the decided drop in the fatal accident rate from 0.4 per million plane miles in 1950 to 0.3 in 1957 to 0.2 today. Meanwhile, the estimated plane miles increased from 1,060,000,000 in 1950, to 1,430,000,000 in 1957, to 2,150,000,000 in 1964.

These figures, incidentally, include all general aviation aircraft: gliders, fixed wing and rotorcraft and all types of flying, instruction, aerial application, business, commercial and pleasure flying.

Unquestionably, there is a haze which clouds the true picture of not only an excellent safety record compared to most any other activity of human existence, but also that of a steadily improving safety record.

There are, we believe, three essential steps to clearing up the safety haze:

First, there is a need for more accurate, more up-to-date information regarding the actual number of airplanes and the actual utilization of these airplanes.

Second, there must be continued education of pilots and ceaseless effort by all concerned to constantly improve safety.

Third, public statements regarding safety must stress the positive factors of improved safety.

By comparison to almost any other activity of human life, the safety record of general aviation is excellent and improving. We all have an obligation to see that it continues to improve and that those who can benefit from air travel are made aware of this position and progress. ●

FIGURE 4. CAB and FAA statistics reflect (as borne out in this illustration) that private aircraft usage is increasing steadily while fatal accidents per million plane miles flown is decreasing at an appreciable rate

