

The Truth About Air Safety Today

By ROBERT J. SERLING

Despite hysteria and hokum, commercial aviation is building an impressive record of accident-free passenger miles — with even greater advances expected in the future

AN AIRLINER CRASHES—and from the tragedy come hysterical cries: "Why did this happen? What can be done to prevent another crash?" Sometimes agitation by the press, Congressmen, and the general public brings great strides in air-travel safety. Sometimes it merely adds to the confusion.

At least the press has a legitimate excuse for its insistent demands for a "why?" Seldom, however, is there a fast and accurate answer available. And that is why a great deal of hokum about air safety is voiced after each serious accident.

Because investigators for the Civil Aeronautics Board usually are reluctant to speculate publicly, reporters covering a crash must turn to the most readily quotable—and highly inaccurate—sources of information available, eyewitnesses.

Most persons who witness an air crash and offer testimony on what they saw are sincere and well-meaning. Unfortunately, many also are completely untrained in reporting the myriad things that can go wrong with an airplane.

In 1949, for example, a DC-4 airliner collided with a P-38 fighter plane flown by a Bolivian air-force pilot over Washington's National Airport in broad daylight.

Seldom has any air crash had more eyewitnesses. But when the CAB gathered the witnesses' statements, one investigator remarked sadly: "I wonder if they saw the same accident." From the various accounts, the CAB "learned" that:

- The DC-4 banked left just before the collision.
- The DC-4 didn't bank at all.
- It banked right, then left, then went straight.
- The DC-4 gunned its engines before impact.
- The DC-4 didn't gun its engines at all, but the P-38 did.
- The P-38 hit the transport from below.
- The P-38 hit the transport from above.

CAB investigators weren't surprised. They are accustomed to eyewitness discrepancies.

Unhappily, others accept these accounts at face value and come to conclusions about air crashes

that are far from the true explanations. And this leads to official demands from Congress that "something must be done"—long before anyone, including the CAB, knows specifically what that "something" may involve.

Early in the summer of 1959, there were two fatal crashes of airliners caught in particularly vicious thunderstorms. Before the CAB even held hearings on the two accidents, a Congressman had demanded that the Federal Aviation Agency ban all pilots from flying "in or near" thunderstorms.

If the FAA had adopted such an order, summer-time schedules would have been cut an estimated 60 percent; thunderstorms occur almost daily in hot weather, and planes fly through them in perfect safety. Such a ban would have thrown the airlines into complete chaos without contributing to air safety.

The Congressman made his demand (1) without knowing the specific cause of either crash, and (2) completely ignoring the fact that airborne radar, now installed on approximately 50 percent of the nation's commercial air fleet, has significantly reduced the thunderstorm menace.

In the two crashes mentioned, the radar on one was out of order, and the other plane was at an altitude which permitted little maneuvering out of the storm's way. The FAA's own reaction made sense. It issued a new regulation requiring virtually all passenger planes to have radar.

Seldom has there been a major airplane crash or series of crashes that have not been followed immediately by one or more Congressmen demanding an investigation of air safety. The outbreak of near-misses and mid-air collisions starting in 1956 was a good example. Subsequent hearings put the blame on just who was responsible in large part: Congress itself, for failing to heed 10-year-old pleas and warnings of the aviation industry that the CAA needed funds for vital air-traffic control improvements.

The money eventually was appropriated, but not until 189 persons had died in three collisions involv-

ing commercial airlines between 1956 and 1959.

This is not to say that all Congressional concern over air safety swings a pendulum between the hysterical and the hypocritical. It was largely pressure from lawmakers that accomplished reform after two fatal collisions involving airliners and military jets, one over Las Vegas, Nev., and the other over Brunswick, Md., in 1958. Congress burned enough Pentagon ears to force closer supervision of military training flights, and improved civil-military liaison in air-traffic control.

Congress has no monopoly on overexcited and oversimplified reactions to air crashes. It is a very human tendency to grope for a panacea, one cure-all for a problem that has a thousand facets; to demand reform before it is known what needs reforming; to look for a scapegoat before all the facts are in.

Are New Safety Methods Needed?

Some air-safety cures are worth discussing if only because they are proposed so frequently, fervently, and foolishly.

There is, for example, the demand heard after so many crashes: "Why aren't airliners required to carry parachutes?"

There are logical reasons why parachutes are impractical. For one thing, no airline captain would want to be saddled with the responsibility of deciding when his customers should jump into space. How about elderly passengers? Children? Passengers with heart conditions?

There is also the fact that parachuting is a highly skilled profession requiring weeks of training. It has been estimated that if 50 parachute neophytes jumped out of a crippled airliner, it would be a miracle if as many as five escaped death or serious injury.

There is an argument that taking a chance on a chute is preferable to the certain death that would come if a plane's wing fell off. True. But in the past 30 years, there have been exactly six cases of airliners losing a wing through structural fail-

ure. Add to this four other cases of structural failure that resulted from collisions. That makes 10 instances in three decades where chutes might have saved a handful of lives.

Even the "handful" is questionable; of the 10 accidents cited, three occurred at such high altitudes that passengers would not have been able to breathe if they had jumped, and one took place at such a low altitude that chutes would have failed to open in time.

Then there is the "why-don't-airliners-install-backward-facing-seats" cry that comes from a fairly sizable group of experts.

Some British airliners have been equipped with rear-facing seats for years, on the theory that the sudden deceleration of a crash throws the passenger back against the softest, energy-absorbing part of the seat instead of being tossed forward, away from the cushioning.

The Military Air Transport Service has adopted the backward-facing seats for the majority of its transports. But MATS concedes it merely hopes the arrangement is safer; it has no proof that rear-facing seats save lives.

One group in this country has done considerable work on the question—Cornell University's crash-injury research program. The gist of its verdict:

An aircraft accident in which there are survivors usually occurs at such a low rate of speed that it makes little difference whether the seats are facing backward or forward.

One aircraft manufacturer went to every aviation research group that had done work on aircraft seats and their relation to accidents—and

found unanimous opposition to rear-facing seats. The manufacturer was advised that in many low-speed (or survivable) accidents, the aft-facing seats were sometimes more dangerous, not less. This was true in so-called "ground loops" or cartwheeling, when violent deceleration threw passengers sideways instead of forward.

Yet there is a great deal that could be accomplished to increase the percentage of survivable accidents: strengthening seat anchorings, developing better emergency exits, and adopting fuel tanks that resist rupture on impact.

Learning for the Future

One CAB survey showed that nearly 100 persons died in 14 crashes that should not have been fatal to begin with. They were accidents in which fire broke out after impact with the ground; there would have been few if any fatalities if the fuel tanks had not split open and burst into flame. Yet the demands for ruptureproof gas tanks have been a whisper compared with the vociferous clamor for such items as backward-facing seats.

It is just such side-show issues that obscure both the accomplishments and the still-to-be-achieved goals of air safety. Long after the sensational headlines, long after the "something-must-be-done" demands, there are dedicated men trying to salvage lessons for the future from the tragedies of the past—and trying not to be stamped into actions that may only compound the problems.

"Very often we have learned—and sadly—that safety is best served by resisting pressures toward the dramatic solution," says Oscar Bakke, deputy

(Continued)

(Excerpted from "The Probable Cause," copyright © 1960 by Robert J. Serling; to be published by Doubleday & Co., Inc.)

How Safe Is Flying — Really?

Any time the speedometer on your car passes 60, you are exposing yourself to a far greater chance of death or permanent injury than when you step into a scheduled airliner. And if the auto accident actually happens, the odds against survival are no better than they would be if you were sitting in an airplane seat.

It is a statistical fact that in a recent year more people were killed riding bicycles than scheduled airplanes.

It is a statistical fact that the airlines spend more money on projects directly related to safety than any other transportation industry in the world — research, pilot training, and maintenance.

From 1946 through 1958, approxi-

mately 1,300 persons died in crashes of U.S. scheduled airliners. In the same period, 427,992 Americans died in automobile accidents.

As recently as the late '30s and early '40s, most life insurance policies contained provisions that warned the insured that if he flew, his policy was ineffective during the flight. Few such provisions exist today; if they do, trips on scheduled commercial airliners are exempt.

Not too many years ago, airline pilots were included in the "hazardous occupation" category that forced them to pay stiff premiums to protect their families. Today, pilots pay no more for life insurance than grocery clerks or bank tellers.

