

McKinney

Pilot Information Bulletin

FLYING DIVISION

7 June 1971

To: All Pilots

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"THE FLYING BUSINESS TODAY is a continual process of education. If you're not transitioning to a new aircraft, you're learning new procedures in the old one. No sooner do you finish one check ride and it's time to prepare for another. As a result, all of us spend quite a bit of time flying with instructor pilots. The odds are also pretty good that if you stay in the business long enough, you'll find yourself making the move to the other seat. In one way or another, as student or instructor, we are all deeply involved with instructor pilots.

Although the problems faced by the instructor pilot are similar to those faced by regular line aircraft commanders, he faces many others which are unique to his job.

No two students are the same. It follows that no two students will respond to the same type of instruction. The instructor pilot must continually analyze his students and find the most effective way of teaching them.

The student's experience will have a great bearing on the instruction he requires. For example, a C-123 copilot upgrading to PIC will need different instruction than a porter pilot, with 5,000 hours, transitioning into the C-123 for the first time.

The student's personality will affect the instructor pilot's technique. Some will respond very well to a comment like "Oh come on dummy, you can do better than that!" With others the same remark would create so much resentment that further instruction would be almost impossible. The instructor pilot must decide the best way to handle each situation.

It is a demonstrable fact that aircraft are totally indifferent to rank. However, the people operating them are not. The instructor pilot must consider this when planning his presentation.

Instructor pilots, by the very nature of their jobs, are exposed to many potential accident situations. They are required to demonstrate and sometimes allow their students to perform many maneuvers which are so hazardous they may be done only with an instructor pilot.

Simulated emergency training is essential to maintain the proficiency of our

Pilot Information Bulletin

FLYING DIVISION

7 June 1971

pilots. However, anything other than normal operation of an aircraft is potentially dangerous. A student's mistake or a simple malfunction can turn a simulated emergency into disaster.

While on a simulated three-engine missed approach, a simple hydraulic failure occurred. The crew applied the proper corrective action by turning off the hydraulic pumps. However, with the engine out, the loss of hydraulic pressure made the aircraft uncontrollable.

The instructor pilot does not have a crew, trained to work as a team, to help him cope with problems in flight. In fact, sometimes his crew is the source of his problems. Take the C-47 instructor pilot who found his hands full in the traffic pattern.

While in the turn to short final, the student pilot accidentally feathered number two engine. While analyzing the situation, the instructor pilot advanced power on number one. The student thought they were going around so he pulled up the gear. The instructor pilot called for the gear to be put down again, but the student pulled up the flaps instead. The instructor pilot called for the engineer to restart the number two, but unfortunately, the engineer feathered number one by mistake. In an outstanding feat of manual dexterity, the instructor pilot lowered the gear himself and successfully landed the Douglas Glider. But the engineer put the gear lever to "Positive Lock" before the gear was fully down and the gear slowly collapsed on the runway.

Because of the limited amount of time available, the instructor pilot is often faced with unusual pressures. He must constantly try to accomplish the maximum amount of training in the minimum amount of time. This can cause him to attempt to cover too much on a single flight. So much that the student gets behind the tempo of operations and learns very little. Just about all of us, at one time or another, have found ourselves half way through an approach, on an instrument practice ride, while we were still trying to figure out the holding pattern entry. Training like this is not very effective. The instructor pilot must walk a fine line between presenting problems quickly enough to challenge his student and effectively utilize the time, yet not so quickly as to saturate the student.

Instructor pilots can alleviate this problem by using good judgment in the pre-mission briefing. Many items can be covered in detail on the ground leaving the flying time free for practice. Holding pattern entries, various instrument approach procedures, and most aircraft systems problems, can best be covered on the ground. On the other hand, some things sound complicated when briefed in detail, but are actually quite simple when they are observed. The instructor pilot must decide where, when, and how to cover each item of training.

Pilot Information Bulletin

FLYING DIVISION

7 June 1971

Instructor pilot failures are not common because most of our instructors are true professionals. But instructor pilot failures have occurred. They are basically two types.

The first type of instructor pilot failure is certifying a pilot as qualified in an aircraft when actually he is not. This failure is usually discovered during subsequent proficiency or line checks. During interviews we sometimes can discover a history of problems the pilot experienced during training which were not in his training folder. They weren't written up for reasons such as:

"Well, he was doing better near the end of the period and I thought he'd catch on eventually..."

"I was going to work with him some more on the next flight, but I had to take a trip and he was scheduled..."

"He did poorly, but I've known him for years and I'm sure..."

In the second type of instructor pilot failure, the instructor pilot himself is involved in an accident. Often because he becomes so involved with instructing he doesn't monitor the rest of the aircraft operation.

During an instrument approach, the student pilot was given a simulated flap malfunction. His handling of the problem revealed that he didn't understand the proper airspeeds to fly with partial flaps. The instructor pilot tried to explain the computations during the rest of the approach. He finished his explanation just before the gear-up landing terminated their flight.

Another, and perhaps the most common, type of instructor pilot accident occurs when an instructor pilot lets a student go too far before attempting to correct his error.

The instructor pilot and his student were making a simulated flameout pattern for a low approach. The combination of a heavy aircraft and some lack of proficiency on the part of the student soon put them on the back side of the power curve. The instructor pilot called for a go-around, took the aircraft, and tried to save the situation, but too late. The aircraft stalled and hit short of the runway. Compounding the problem, the instructor pilot then failed to complete the go-around procedures, or to pull off the power to land. The aircraft left the runway, with partial power and continued across the field until it hit some trucks and came to a stop on the ramp. The aircraft was destroyed.

We've seen a few of the many ways in which an instructor pilot can get into trouble while plying his trade. How does he avoid these situations? The key is contained in a single sentence of advice which is probably as old as

Pilot Information Bulletin

FLYING DIVISION

7 June 1971

aviation itself - "First you gotta fly the airplane."

Few situations in flight are as potentially hazardous as losing control of an aircraft or letting someone else lose it for you. The instructor pilot must take whatever action necessary to prevent it. The training he accomplishes is, of course, vitally important, but first he must fly the airplane. It would be far better for an instructor pilot to take control of an aircraft prematurely a thousand times than to wait too long only once.

As a group, instructor pilots have a greater impact on our flying safety program than any other crewmembers. That's a pretty strong statement, but it becomes apparent if you examine a few of the results of the instructor pilot's work.

Instructor pilots teach the basic motor skills needed to operate our aircraft. But even more important, perhaps are the attitudes they instill in their students. The attitudes of each of our pilots are, to a large part, determined by what they have seen and learned during their association with instructor pilots. The interesting part of this process is the fact that these attitudes are determined mostly by what the student sees rather than what he is told.

For example, a student pilot transitioning into a new aircraft calls for the before landing checklist. The instructor pilot in the right seat quickly flips a few switches and says, "Now ordinarily, when you're out flying the line, you'd go ahead and run the whole checklist. But since I'm here, I'll just set things up for you and we'll save a little time." The result of this type of training is a pilot who knows when to use the checklist, (He's been told that.) but who doesn't take it very seriously (His instructor operated without it all the time with no problems.) A professional instructor pilot must remember that his every action influences his student. "Do as I say, not as I do" just won't hack it.

Instructor pilots also have the best opportunity to objectively observe our pilots. Granted, evaluation is primarily the job of the flight examiner. But he often flies with a pilot only once. Because of this, he may, or may not be able to discover any weaknesses the pilot has. An instructor pilot, on the other hand, usually flies with a student quite a few times. He can watch him during his good days and on the days when things don't go too well. With the possible exception of the pilot himself, the instructor pilot is by far the best judge of any pilot's actual ability to perform. Flight examiners are well aware of this fact and consider the instructor's recommendations during the evaluation. If the instructor pilot thinks the student is ready, he probably is.

This places an even greater responsibility on the instructor pilot. Before he recommends anyone for a check ride, he must be sure, absolutely sure, that the

Pilot Information Bulletin

FLYING DIVISION

7 June 1971

student is ready for it. An old civilian flight instructor once said he would never recommend a student for a check unless he felt he could let his own wife and children ride with the student alone. That's not bad criterion.

The instructor pilot's lot is not an easy one. His work is difficult and demanding. He is exposed to greater than normal hazards and held responsible not only for his own actions but those of his students. He must operate with crewmembers who are expected to make mistakes and he is expected to successfully anticipate and correct them.

His rewards are impossible to measure. No one will ever know how many correct decisions will be made or accidents avoided because of something one of his students learned from him. When an instructor pilot saves an airplane usually only he and the student know it. Sometimes only he knows it.

It has been said that a man is the sum total of his experience. Perhaps it would be correct to say a pilot is the sum total of his instructors. And the total capability of Air America and is directly proportional to the sum total of our pilots. The instructor pilot is indeed a big man in AAM."