

I guess, like the hummingbird, not knowing he has insufficient wing area to fly, flies anyway.

Mr. KUYKENDALL. I had occasion to go out in a B-25 and have an engine go out while 10 feet in the air and we circled the field and landed on one, and it was not supposed to be possible. I was an air cadet at the time. I did not know it was possible.

Would you classify this particular training procedure in the area of an event that is so rare that the danger of training is much greater than the danger of the event actually happening.

Mr. RUBY. I would say that is a correct statement, but I do believe that in the present sophisticated design of airplanes that it well behooves the carrier to invest his money in simulators that will do a good job of fidelity and then he can train people in things that he would not dare do in the airplane, and you have an end result of a better performing crew. They are then prepared to handle emergencies that you could not possibly train for in the airplane, because in most cases you have used the crew in the airplane up trying to train them.

Mr. KUYKENDALL. I would like to ask you, if you will, to help us and this committee in discussing matters of priority. I don't think you have suggested an area here of concern that we don't agree on with you, but certainly here in Government we have to recognize priorities.

Now you mentioned two broad areas, one of safety and one of convenience. Personally, I am not going to be greatly concerned about convenience before safety is taken care of. At least the guys who didn't make the airplane because of crowded traffic to the airport are alive. They may have been late, but they are alive. So we have a definite matter of priority.

In the collision avoidance, is any work being done on a collision avoidance system that is not reciprocative? In other words, one airplane reacting on the other without the other airplane having the collision avoidance?

Mr. RUBY. Yes; some work is being done in this area, but a great portion of the development that is being done now deals with the so-called compatible system, which means both airplanes have to be equipped. Now the other problem is a much more serious problem in terms of trying to do the job, because if you, for example, use a radar principle, or laser, or infrared, the other airplane has got to produce a reflection of the transmitted signal for the one transmitting the signal to receive the reflection back. There are some airplanes that simply don't produce a reflective target. This is true even with ground radar today. I am speaking of the smaller airplanes that in some cases have fabric covering. They don't present much of a radar target.

Mr. KUYKENDALL. You are certainly aware of the fact that recently Orly and Le Bourget have closed both airports to aircraft other than those that have two pilots and compatible electronics, but by the time they got ready to make this decision they had satellite fields equipped with ILS, and so forth.

I think we must recognize the fact that private aircraft, at least the smaller ones, are going to be a long time coming with any kind of collision avoidance device. For this reason, I was hoping when you said there is work being done, that one of our goals would be a collision avoidance device that would not require reciprocation. Because,