

Does any one have a comment?

Mr. FRIEDEL. They don't want to try it.

Mr. DEVINE. Let us get into another area. Mr. Kuykendall touched on this. A lot of people have the mistaken belief that the black nose on the front of the aircraft is radar for everything and not just confined to weather radar. Is your answer to Mr. Kuykendall the fact that it will not pick up other approaching aircraft or objects because it is not equipped to do so, that they don't throw enough target back? What is the answer to that?

Mr. RUBY. There are two answers to it. One, it is a weather radar. That is its primary purpose. But the energy cone that is transmitted by C band radar is a $7\frac{1}{2}$ degree cone. On X band radar, it is a $3\frac{1}{2}$ degree energy cone. As the antenna rotates it is sweeping with either $7\frac{1}{2}$ or $3\frac{1}{2}$ degree cone. Any airplane that is any distance away, the slight tilt of the antenna can completely miss that airplane. So it will not show up as a blip on your radar scope unless perchance you have your antenna tilt set where it will pick up this other airplane, and then the blip is mighty small.

You have almost got to know what you are getting a blip from before you know you are getting it from another airplane.

Mr. DEVINE. Do you know whether radar research is moving in that direction where they will have a cone type that will detect other aircraft in the area? I recognize the closing speed of the jets.

Mr. RUBY. Unfortunately there is not much point in going into this type of collision avoidance system, because you are vulnerable to collision from aircraft below you, above you, behind you, on the sides, and the nose type of antenna system simply cannot deal with anything that is behind you or below and behind or above and behind.

So there is no point in spending money on researching that for collision avoidance purposes, because you have to cover practically a sphere instead of a limited hemisphere in front of you.

Mr. DEVINE. I have one other question. Again maybe some of the pilots here can answer this. Do you consider the noise abatement regulations at Washington National to be a safety hazard?

Mr. RUBY. They were. These boys that fly out of here are certainly better qualified than I to answer it. I state at least on climbout, to try to follow the river, with a nose that has the entire ground mass hidden from view, this is a tricky operation.

If any of you fellows would like to comment on that, you may.

Mr. DEVINE. They fly the river course both north and south to 1,500 and level off until they are 10 miles out. What is the regulation here?

Mr. JONES. There has been a recent change in it. One of the things that we the pilots were glad to see was an ability to clean up the airplane and get it into flying speed rather than keep the airplane dirty, so to speak. This was a large improvement.

My criticism of the system now would be that we have to loaf for 10 miles under the present policy, regardless of the altitude attained, we are to fly at reduced thrust until 10 miles from the airport. We may have attained 5,000 feet, but we are going to keep it quiet out over the woods out there anyhow.

Mr. DEVINE. Do you consider this a safety hazard?

Mr. JONES. It is not a safety hazard per se, but generally speaking any reduction in thrust is going to reduce the performance of the aircraft.