

So That's Why My Radio Won't Work

After reading George Wilhelmsen's article on antennas in the January *EAA Sport Aviation*, I now have some idea of why my comm antenna does not work well in my wood-and-fabric miniMAX. The antenna is a standard fiberglass whip. It is mounted inside the aft fuselage, sort of angled down with an equal length of flat, braided shield wire angled aft. Reception on my Vertex Standard handheld comm is excellent, receiving farther than I can fly. However, transmit is heard mostly in the pattern by others flying with radios having excellent reception within shouting range.

George noted the requirement for a ground plane if a vertical dipole is not feasible. What would constitute an adequate ground plane for modest (about 5 miles) transmit ability? As the miniMAX is a small, ex-ultralight, open-cockpit, single-place, real estate for a ground plane is limited.

Considering this situation, is it reasonably possible to achieve transmit, or should I simply return to operating sans radio as I have done for some 15 years?

Thank you for considering my situation and for submitting the antenna article to *EAA Sport Aviation*. I am certain that it was helpful to the other composite fliers, wood being the first composite.

Harold P. "Skip" Little, EAA 105376

George Replied...

The product of the wave's frequency times its wavelength must be the speed of light. A wave of frequency 129 MHz (max comm MHz) equals 2.33 meters or 3e8/118.0 MHz (min comm MHz) equals 2.54 meters equals the limiting ground plane. What size should a ground plane be? For best performance, the ground plane should be horizontal and have a radius of at least one-quarter wavelength of the antenna's operating frequency, or as large as practical. A good general rule to follow is to assure that the ground plane radius is at least equal to the antenna height or length. One-quarter wavelength of the limiting ground plane frequency is 2 feet. Not quite Olympic work, but it was fun math.

George Wilhelmsen, EAA 442664
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What Do I Need to Do?

I am a holder of a private pilot glider certificate. I contacted a training center to start taking flight training in one of their LSA. They told me because my pilot certificate is a glider certificate I would have to do the complete program including taking the written, all of the required flight hours, and a practical with an FAA examiner. The instructor said that he called the local flight standards district office and that is what they told him.

I thought since I held a private pilot certificate all I needed was to fly with an instructor until he felt that I was ready and then fly with another instructor to get an endorsement in my logbook.

Please let me know if I am incorrect and the specific FAA regulations that cover this.

Mike Marsh

Via e-mail

The information they gave you is incorrect. Since you already hold a pilot certificate, you can add a privilege at the sport pilot level using the procedure called out in FAR 61.321. This does not require a new knowledge (written) test or a checkride with a pilot examiner. The entire process can be handled with proper endorsements from authorized instructors.

You can view FAR 61.321 on the FAA website, www.FAA.gov; click Regulations & Policies, and search the FAR number (61.321 in this case).

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