
Antenna Grounding for Composite Aircraft

General Information

Installations must be made by qualified personnel, and in accordance with Federal Regulations. Refer to FAA Advisory Circular 43.13-2b for General installation guidelines. A copy of the FAA Advisory Circular can be obtained at www.faa.gov. Look for Advisory Circulars under the Regulatory/Advisory heading on the FAA home page.

Mounting Preparation

The electrical bonding of the antenna to the aircraft ground is extremely important. If this is not done properly, antenna performance characteristics may become distorted and nulls may appear in the antenna radiation pattern. This, in turn, may cause erratic navigational readings or signal drop out. The electrical bonding of antennas to composite aircraft is best accomplished by direct metal-to-metal contact of the antenna mounting hardware to an internal ground plane. To do this, you must have the mounting screws, washers and nuts make direct contact to the internal ground plane with the use of a backing plate. The backing plate must make direct contact to the internal ground plane. Sandwich the aircraft skin and internal ground plane between the antenna base plate and internally mounted backing plate. To test the electrical bonding of the blade to the aircraft, a reading of .003 ohms between the antenna base plate and ground should be achieved.

Ground Plane Size

VHF antennas will require a metal ground plane size of 24" by 24" OR LARGER. "As large as practical" will assure optimum antenna performance. Most other antennas may also use the 24" by 24" rule, but with ground planes, larger is always better.

After installation, double check that a reading of .003 ohms between the antenna base plate and ground has been achieved.