

Low Wing to Fuselage Retention

By George White

One lasting impression I got after attending a couple of FAC Nationals, as well as watching local flyers, was that low wing scale models have a habit of breaking wings upon smiting the ground. Having an extreme dislike of rebuilding broken wings, I decided I'd try to beat that rap. When I built my Boulton-Paul Defiant, I attached the wing to the fuselage with 2 pairs of 1/16"X1/8" Forcefield magnets (.2gm per pair). Those two sets of magnets hold the wing quite well in terms of tension, but have almost no ability to resist shear loads. To give resistance to shear loads, I installed four "detents" made of half round 1/8" dowel pieces, about 3/8" long as seen in the photo. These detents fit into cut-outs in the bottom of the fuselage. Thus when one wing hits the ground first (who's kidding here, one **always** hits first) the twisting load causes the half-round detents to pull the magnets straight apart rather than sliding sideways. It takes a bit of smack to knock the wing off, but not enough (hopefully) to damage the wing.

