Craftsmans—Corner

DRAG/ANTI-DRAG WIRE ALIGNMENT AND DRILLING GUIDE

By Chuck Larsen, EAA Designee Director
Photos by Marian Cavadias, EAA Staff Photographer

Bauken Noack of the EAA Aviation Foundation Shop staff fabricated this ingenious device to align and drill the mounting and passage holes for the drag/anti-drag wires in aircraft wings. This particular one was made to drill the holes on Acro Sport and Acro II aircraft, but the dimensions can be changed to suit nearly any project.

The device consists of four parts. A 6 foot length of 7/8" O.D. square (round won't work) tubing and 3 "stands" for marking and drilling the holes. Each stand consists of a 7/8" I.D. square tubing mount with a locking device, a 4" mast and a head through which the pivot or drill bit extends. By extending the mast to 6 or more inches, the device could accommodate most current wing designs.

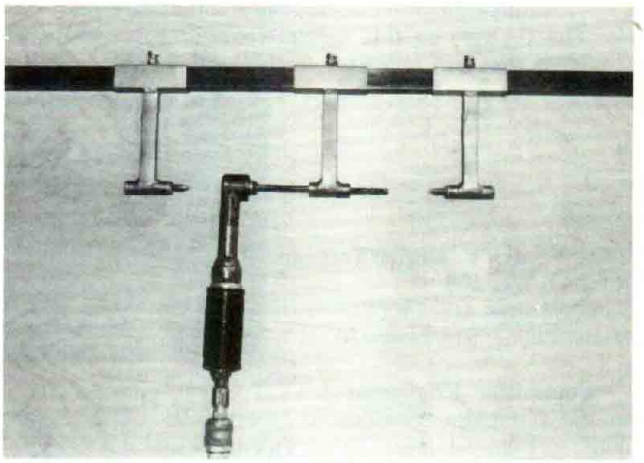

Photo "A" — The complete alignment and drilling tool.

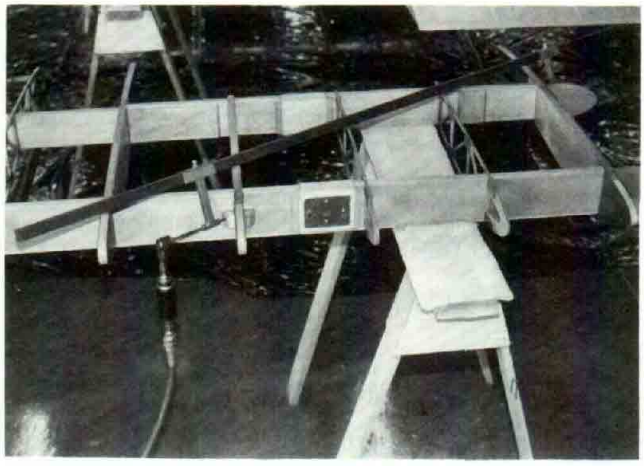

Photo "B" — Drilling the mounting holes in a wing for an Acro II.

Photo A illustrates the completed guide tool. The pivot points shown on the outer masts are bolts ground to a point to be used in marking and holding the device while drilling. A fork with an appropriate size "nut" attachment can be screwed onto the bolt when one end of the drag/anti-drag wires are mounted on an existing interior mounting plate.

Photo B illustrates drilling the mounting holes in a wing for an Acro II. You will note the stand at the far end of the picture is placed in the position in which that hole will be drilled while the hole is drilled in the position shown in the foreground. The device will then be turned around for drilling of the other mounting hole. An angle drill is illustrated in this photo, but, as you can see, a standard drill would work as well in this application.

Photo C shows the drilling of holes through the compression ribs by placing the third mast in the center and the outer mast in the previously drilled mounting holes. This makes it possible to drill a small diameter, perfectly aligned hole for the drag/anti-drag wire as it passes through that rib.

This device allows for a very high degree of accuracy in accomplishing this delicate procedure which can safely offer very little leeway in its accuracy. Bauken's answer for accurately completing this procedure, which is required on nearly every airplane, will help builders to produce a higher level of craftsmanship in their project. This tool is one every Chapter or group of builders should add to their inventory.

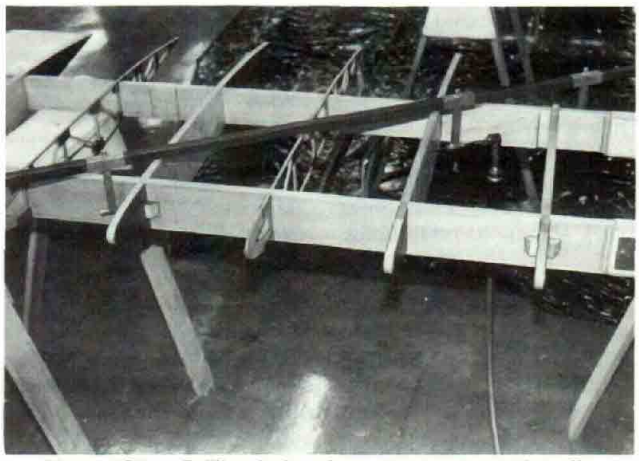

Photo "C" — Drilling holes through a compression rib.

(Photo by Ted Koston)

Reserve Grand Champion Antique — a 1931 Stinson SM6000B owned by Chuck Andreas, Bill Brennand and Byron Frederickson of Neenah, WI. Probably had more air time than any other aircraft at Oshkosh '82 as it was used to hop passengers all week.