HOW-TO-DO-IT

1-26 ASSEMBLY IN 5 MINUTES?

by OTTO ZAUNER

In the Elmira 1-26 Regatta in 59 Art Heavener and I did it in 7¾ minutes. In 60 Mr. Norton and Company did it in 7½ minutes. A prelude to both events was a run across the field for a hundred or two hundred feet. Since that time we have often been asked how this was accomplished, the inference being that there were some special tools or techniques involved. There are, and there aren't, that is, none that go beyond common sense.

As the title implies, I think it is entirely possible to assemble a 1-26 in the Elmira Regatta in five minutes. To explain this further I will describe the equipment that was used and how it can be improved.

The 1-26 was carried in a covered trailer that opened from the front. The back, though open, did not permit unloading. The ship was carried in the usual way, fuselage center, wings on the sides, and stabilizer hung from the roof. Two tracks permitted the wing tips to be carried out of the trailer on a sling. The best feature of this trailer was that no wrenches were required, that is, all nuts had their own handles, and studs rather than bolts were used. Further, each pin or nut had an alternate position where it was stored, none had to be handled twice, or fumbled once.

The trailer unloading sequence was wings first, stabilizer, and fuselage. In the interest of rapid assembly this is wrong. I would now recommend the more conventional open trailer which leaves the stabilizer intact. I would further make provisions so that the fuselage could be unloaded first, the wings then need only be handled once.

After several years experience at assembling a 1-26 we are convinced that assembling the wings to the fuselage is best done by two men with a fuselage stand. A third man to hold the fuselage introduces another variable that causes confusion. We used a board about four feet long with an arm hinged to one end. The arm comes up and is held by a ⅜ bolt through one of the jig holes of the wing carry-thru. The board is centered under the wheel and two cleats keep it from rolling. This serves to hold the fuselage in a fixed vertical position, and, having the same target each time, the wing tip man soon learns the exact position where the wing will enter. On our ship we found that if the tip was slightly low the spar root would slide in easily against the inner and upper carry-thru stop. Then when raised slightly it would slide home.

The man at the tip controls the incidence of the wing by sighting down the top of the airfoil against the mating shape on the fuselage. We used friction tape to keep the drag fitting joint stiff enough to support itself and it often held its position from the last disassembly so that it was not necessary to move it at assembly. Never permit anyone to handle the wing root so as to bend the unsupported skin, and always check to see that the spoiler cable is inside the wing before assembly. Always use the ⅜ carry-thru jig holes to align the main pin holes, this preserves the good fit of the main pin holes.

When one wing is installed, it is a simple matter to pull the pin on the fuselage jig and drop the hinged arm to the ground. If your crewman is tall the 2nd wing can be installed with the assembled wing on the ground, otherwise some support will be needed. In either case, a fixed position is better than a variable one.

Most of the assembly time is spent, or lost, by the man in the cockpit on the main wing pins and the control pins. Our 1-26 was rigged with a canvas pouch fastened to the back of the seat that carried all the pins and tools. A better way would be to use a compartmentized block, with a lid, fastened to the forward side of the carry-thru to hold the main pins because they enter from the front, and one mounted to the top of the wheel cover for the rear nuts and pins. This will put each pin and nut within easy reach and avoid the fumbling. A ⅜ diameter by 8" long piece of soft brass used as a drift and a *light* steel hammer is much better than using a brass or plastic hammer directly. Also, a speed wrench, universal joint, and socket saves time on the main wing nuts. The trick here is to reduce the flexibility of the joint with a piece of thin wall rubber tubing.

It usually follows that if you can do it easier, you can do it faster. While the above is aimed at the fastest possible assembly, and I firmly believe that two nimble fingered men are going to assemble a 1-26 in five minutes, those of us who have expended sweat and emotion while the cu's explode overhead will agree that a little preparation and attention to details will make this a much more enjoyable sport.

CALENDAR

Items listed in bold face type are to be sanctioned by SSA.

March 25-April 23. Month-long Wave Soaring Expedition sponsored by SCSA at Bishop, Calif. Contact Jim Meckoll, 5120-A Livingston Dr., Long Beach 3, Calif.

April 15. F.A.I. Gliding Committee (CVSM) Meeting to select sponsor for 1962 Internationals, Paris, France.

April 29-30. South Atlantic Spring Soaring Roundup, Municipal Airport, Burlington, N.C. Sponsor: Tarheel Soaring Club, Inc., 4326 Duke Sta. Durham, N.C.

April 29-30. 1-26 Regatta, Sky Sailing Airport, Fremont, Calif.

May 20-22. Soaring Contest, Hawkesbury, Ontario, Canada, Airport (60 mi W. of Montreal).

May 27-28. Memorial Day Soaring Meet, Airport, Wurtsboro, N.Y.

May 27-30. 4th Annual Jim Swearengen Soaring Contest, Twinkletown Airport, Walls, Miss. (15 mi. S. of Memphis, Tenn.)

May 27-30. CBSA Memorial Day Soaring Meet, CAP Field, Richland, Wash.

May 27-30. 13th Annual Wright Memorial Glider Meet. For information contact: Soaring Society of Dayton, Inc., Far Hills Branch P. O. Box 581, Dayton 19, Ohio.

May 27-30. M-ASA Memorial Day Weekend Soaring Meet, Municipal Airport, Cumberland, Md.

May 27-30. 11th Annual Northern California Soaring Contest, Municipal Airport, Oroville, Calif.

June 24-30. "Thermal Days," Adrian Mich., Airport, sponsored by the Toledo Glider Club.

June 31-July 9. Soaring Camp in South Carolina, location to be announced. Contact C. A. Street, Jr., Rte. 1, Advance, N.C.

July 1-4. 1st Annual Great Plains Soaring Contest, Harvey Young Airport, 1500 So. Hoover, Tulsa, Okla.

July 1-4. Midwest Soaring Meet, Adrian, Mich., Airport.

July 1-4. Soaring Contest, to be sponsored by SCSA and held at either Tehachapi or Taft, Calif.

July 3-8. Eastern Open Soaring Championships, Harris Hill, Elmira, N.Y. Sponsored by EASC.

July 24-30. Annual National Model Airplane Championships, Willow Grove Naval Air Station near Philadelphia, Pa.

Aug. 1-10. 28th Annual U.S. National Soaring Championships, Municipal Airport, Wichita, Kansas.

Aug. 2-6. 9th Annual Experimental Aircraft Assn. National Fly-In. Greater Rockford Airport, Rockford, Ill.

Aug. 11. SSA Directors' Meeting, Wichita, Kansas.

Sept. 1-4. Regional Soaring Meet, location in Chicago area to be announced.

Sept. 16. SSA Technical Symposium on Soaring, IAS Building, 7660 Beverly Blvd., Los Angeles 36, Calif.

Sept. 23-24. Fall Soaring Roundup, Skypark Airport, Chillicothe, O.