

# SAFETY CORNER

ROBERT GAINES

## "USUALLY" IS NOT ENOUGH

by Tom Knauff

*I've been flying gliders for eighteen years and over the years have assembled sailplanes countless times. One time early in my soaring career, I failed to hook up the ailerons but discovered my mistake just before takeoff during the pretakeoff checklist. That really shook me and I often thought of what might have happened if I had taken off.*

*I developed a rule that I vowed never to violate: **Always hook up the controls as soon as the wings or tailplane are installed.** I've instructed others to do the same thing. . . . "There, we have put in the wing pins and the wings are now on. Hook up the controls immediately — don't let anyone interrupt you." And so, for more than fifteen years, I had assembled sailplanes secure in the comfort of this simple system that I would never make the mistake of others.*

The weatherman promised a great soaring day and I looked forward to stealing some time away from the business to fly a practice triangle. Doris and I arrived at the gliderport a little early and began to assemble our AS-W 20.

We put the wings on. As soon as I pushed the wing pins in and locked them in place, I walked around to the trailing edge, reached through the turtle deck opening, and hooked up the controls to the flaps, ailerons, and dive brakes. I double-checked them — just as I'd done so many times before.

I walked back around the wing to get the horizontal tailplane from the trailer. This time I remembered to stop by the cockpit to get the tailplane attach bolt and its special installation wrench from the cockpit pocket. (So often in the past I would walk around the wing, get the tailplane, walk back around the wing to put the tailplane on, and then have to walk back around the wing one more time to get the bolt and tool, making lots of extra steps.)

While I was getting the bolt and tool from the pocket, I noticed the Braunschweig tube lying in the cockpit. I could save extra steps by taking that along, too, but I realized I might not be able to handle the tube, bolt, tool, and tailplane all at once, so I carefully laid the tube on the wing where I would be able to reach it after I installed the tailplane.

After laying the B-tube on the wing, I walked to the trailer, took the tailplane from its holder, and walked around the wing to the tail of the glider. Doris was putting the dollies away.

I installed the tailplane and screwed the bolt down with the special wrench. When I turned around I noticed that the B-tube was not on the wing. Did it fall on the ground where someone could step on it? I didn't see it. "Doris," I asked, "did you see the B-tube?"

Yes, she had seen it and was worried that it might fall off the wing, so she had picked it up and put it back in the cockpit. She handed me the B-tube and I installed it in the vertical stabilizer.

The B-tube is inserted just a short way and is held on and sealed by a piece of tape. "Do we have any tape?" I asked her. "Not here — it's in the office," she replied.

We usually have a girl in the office to answer the phone, but on this day Doris and I were alone. The office was 200

feet away so we were hurrying along to get the AS-W 20 assembled and push it near the office where we could finish taping, fill the water ballast, and hear the telephone, too.

(By 9:30 a.m. the glider was assembled, taped, and filled with water, except *the elevator was not hooked up.*)

A very high thin cirrus deck covered the sky until noon. There was no lift. Other pilots assembled waiting for the high clouds to burn off. We talked about a 200 or 300-km triangle. Shortly after noon, I drove to town to pick up some tubing to make a wing stand and look at one of those wireless telephones. This way we could answer the telephone even when we were outside the building. But it only had a 100-ft. range so I didn't buy it.

When I got back to the gliderport, students were practicing patterns in the calm air. The high cirrus persisted. We moved the AS-W 20 toward the end of the runway to be out of the way of the training activities. I built a wing stand. Doris helped with the padding.

The cirrus never burned off and by late afternoon it was obvious that there would be no thermals.

"Well, I'm going to fly the '20 anyway just to practice a landing, dump the water, and taxi closer to the trailer," I said to Doris. "Or would you like to?"

To reach the controls, Doris sits well-forward in the cockpit and, because of the placement of the flap handle, she has difficulty getting the flaps all the way down. We had recently drilled an additional hole so she could get the flaps almost all the way down. Because of this, she decided she wanted to take advantage of this opportunity to try a landing with the modified flap hole.

"Yes," she said, "I'd like to fly." Doris has quite a lot to do to prepare for a flight. Minimum pilot weight is 165 pounds and she weighs 115 pounds. A parachute, seven factory ballast weights, an additional 15-pound shot bag, and three cushions had to be installed. There was lots of help as we got her ready and pulled the sailplane to the center of the runway.

Doris got in, fastened her belts, and went through the pretakeoff checklist. (When she pulled the stick back, the elevator went up. *The push rod pushed the elevator up even though it wasn't connected. She pushed the stick forward and gravity pulled the elevator down.* There was no positive check; it looked okay.) She completed the rest of the checklist and we tested the release. When the launch began, I ran her wing. As soon as the glider rolled and the tailskid bumped along the grass runway, I noticed the elevator make an unnatural movement. I called to those nearby that the elevator was not hooked up. They thought I was joking.

As the heavy glider gained speed, Doris progressively changed her flap setting from full negative to a notch of positive flap. The glider left the ground and began a steady climb. Doris moved the stick forward and the glider didn't respond. It kept climbing. She immediately knew what the problem was. The glider traveled through a few pitch oscillations. She struggled to maintain position behind the towplane: On the first nose-up climb, the attitude was so steep and the airspeed so slow that Doris feared that if she released at this point, the glider might stall and impact in a severe nose-down attitude. She hung on.

A patch of trees was in front of her. The glider pitched nose down as she changed the flap setting to a negative position. She was next looking up at the towplane and the glider began to climb again above the towplane. The glider pitched nose down once again. Doris released the towrope. She was about 100 feet high. Not high enough to clear the trees. The glider stabilized at a steady speed. She guided the glider along a path she had previously analyzed in case of a rope break. She had a plan of action. She guided the

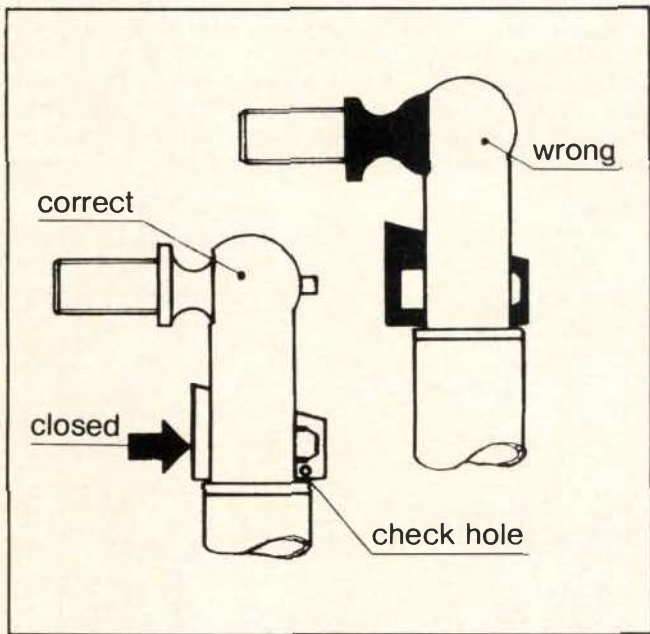
glider toward the lowest trees, hoping to land safely in a clear field just beyond.

Her left wing touched a tree. The glider swung hard left and continued skidding sideways, first through the air and then through brush before it impacted on the edge of a small stream. A splash of cool water came through the broken canopy. Quiet. . . Pain. . .

The glider was totaled but the cockpit area stayed intact, saving Doris from serious injuries. An ambulance crew arrived and carefully lifted Doris onto a stretcher. Doctors found a crushed vertebra. She will rest for a few weeks. It could have been much worse.

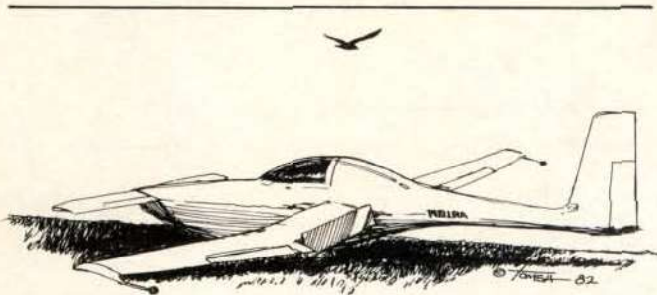
*If there is a moral to this story, it might be that no matter who you are, no matter how careful you usually are, you must know and remember that mistakes are so damned easy to make. I can't believe I didn't hook up the elevator, but I didn't. A moment's distraction was all that it took.*

*Yes, we usually perform a positive control check. It's obvious we don't always perform a positive control check, or this accident wouldn't have happened. Teachers are students, too.*



#### Safetying the Quick Connect

Emil Kissel sent a drawing of the popular ball-socket connector that has caused some problems. There are reports of the connector coming apart even though a "positive check" had been performed prior to launch. You will note that a small check hole can be seen in the locking wedge. A small safety clip should be inserted to assure that the connector remains fastened.



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