

on only 9.4 volts) but guess what? We didn't have enough voltage to lower our electric nose gear. I had Shirley circle (she did a very good job) while I reached behind the panel to try to lower the gear with a socket wrench. But guess what? I had a cheap, 12 point socket which stripped before I was able to crank the gear all the way down. I could see through the little window that the gear was only part way down.

I called the tower and told them I was unable to lower the gear all the way, and they instructed me to land on a cross wind runway. Right after we touched down, the nose went down, we lost the bumper, ground off the little metal foot that mounts on the strut, and stopped really fast (we could have landed on the ramp). A Mooney had made a wheels up landing a short while earlier, so the tower expected the worst. We were greeted with a crash truck, an ambulance, and a police car, and quite a crowd of people. I felt pretty stupid trying to explain to people that the Cozy was designed to land that way, and nothing really was wrong. No injury, no damage. I reached in my tool box, got out a 6-point socket, lowered the nose gear all the way, and we pushed our Cozy over to the maintenance shack. No one was there (it was Saturday afternoon, and the mechanic was still attending to the Mooney on the other side of the field). We dropped the lower cowl, and I didn't know what to expect. But it was obvious. The simple little wire to the alternator field had fatigued in the breeze (it must really be breezy in there) and broken at the spade connector. I reconnected the lead, reinstalled the cowl, fueled up, and got a jump start. For a couple of minutes, the alternator was charging at about 35 amps, but it soon settled down and the voltage climbed back up to 14.4 volts, so we took off and went on our way. So much for electrical systems!

Interestingly, when we landed in Kissimmee FL, a pilot of a factory built discovered he had left his master on over night and his battery was flat. We suggested (from recent experience) that he get a jump start and let his battery charge while he was flying home. He was afraid, and decided to stay overnight while the FBO took the battery out and put it on a charger, and then put it back in again. That must have cost him! Oh, well!

At Kissimmee I called Steve Wright and asked him to bring an extra metal foot, which we installed at Sun 'n Fun, and after returning home to Mesa, I installed a new bumper under the nose.

Just on the chance that something like this might happen some day, when I built N14CZ, I buried two layers of 1/4 in. birch plywood and two layers of 1/4 inch aluminum, and a few extra layers of glass in the nose immediately under the bumper (that is why we call it composite construction), so there was no damage at all to the nose, but I have used up my last half hockey puck.

GIMME MORE FUN (VANCE)

Getting to Sun 'n Fun, OR, can you spell BAD WEATHER? Putting about 25 hours on our COZY III in the process of slogging our way to Florida, we had a few glitches. I had not flown the Cozy in the preceding 3 months due to a busy work schedule and consequently didn't get to test fly the latest mod

(more than 15 min.) before we left on our first 5-hour leg, so here is how it went.

After reading about the dimple tape in sport aviation and talking to the inventor, I decided to buy my own tape and punch the holes in it ala homebuilt. The first thing I found was it took a month to get the 17 thousandths thick tape from 3M (Nat no longer works there). They charge extra for one roll when they have to "break a box" This cost about 80 bucks for a 100 ft. roll. I then proceeded to punch in all the little holes using a gasket punch, this took a month. *Just kidding!* It really only took about an hour and a half. Piece of cake for anybody who's built a composite airplane and put the finish on. The application process took a couple of hours (*where did you put it, Vance?*) and the bottom line is the day we left for Sun 'n Fun (via a lot of other states) was the first test flight. I flew for 15 minutes and noticed nothing horrendously wrong, so we loaded up and left for the East Coast.

During the short test flight I did notice a couple of other things amiss and they were, my fuel flow was reading a tad high (about 2 gallons per hour) and my red warning light on the Northstar was on the whole time. I contributed the light to a zippy vertical take-off and didn't have a clue to the fuel flow. After landing back at home base, I refueled and taxied to the hangar to await my wife. I then noticed the red (low SNR's) light was out. OK. I pulled the lower cowl and all the fuel fittings looked good with no fuel stains in sight. We run a 28 psi fuel injection so connectors and lines are very important to be leak free.

As we blasted off for the Coast, I again noticed the red light and after 30 min. I still could not get it to go out. I thought, "jeez, here I am starting a trip going all over the place and I'm not going to have any long range nav". Just my luck. I started gathering all my charts and the ol trusty whiz wheel and muttering something under my breath like, "why me", and a few other things. After an hour of thinking about the problem and doing several diagnostic checks noting all the SNR's were low, I started turning off equipment one by one. Viola, when the transponder went off line, the entire signal to noise ratios took a big jump up! So now I had a choice between showing up on somebody's scope or navigating! Some deal!

After 4 hours of alternating transponder and Loran (yeah, that's right, I said Loran) both units started functioning normally. After landing I checked all the connectors and harnesses and really couldn't find anything wrong.

All the while this was going on I kept a wary eyeball on the tach. Sadly noting no change in RPM or speed. At first I thought the dimple tape might be causing the high fuel flow but by the time we arrived at Tri-City TN, we were showing higher and higher reserve fuel and when we landed we had 15 more gallons than the computed numbers showed. Definitely something amiss there. Later, after the 20th hour of flight, I noticed some of the dimple tape starting to peel off, so I just removed the rest of it. On the next leg I noticed sadly, no change. I think that if you have relatively efficient airfoils, you will not benefit from this type of vortex generators. Indeed, later on Jim Price had the chance to test some EZ type airfoils in a wind tunnel and the dimple tape was the worst as far as drag goes. The best? Simple vortex generators everybody has been using all along. I don't