Transition

By Dave Brunner

Flying in the

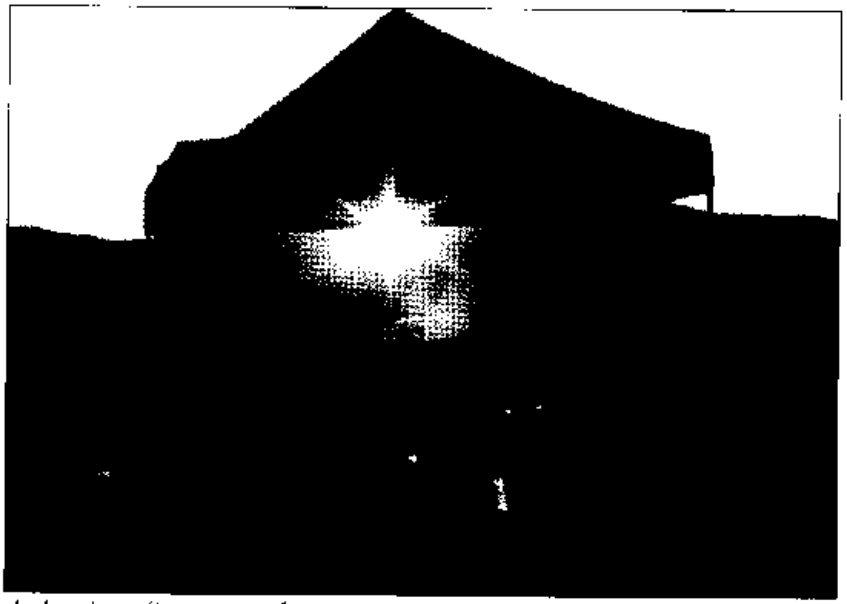
"This will be the most fun you will have had with your clothes on." Jim said, smiling as he shut the canopy. "Pattern is Clear" – "Wing Up" – rudder wag and away we go.

It was the scariest moment of my flying career to date. Perhaps scariest is not the right word. Challenging or exhilarating would be more appropriate, for I was about to take my first flight in a high performance glass glider, a 44:1 Open Cirrus. This is the story of how that flight came about, my preparation for it and my feelings during the flight, and it may help another low time pilot make the seemingly daunting transition from low/medium performance to a high performance sailplane. I began flying in June of 1998 when I took my first ever flight with Skyline Soaring – since then I have some 140 flights with 110 hours, completing my Silver Badge and Diamond Altitude, all in a 1-26. Yes, if my name rings a bell, it's because my Diamond flight was featured in the August '99 issue of Soaring.

This story begins in the summer of '99 when Jim Kellett, also a contributor to *Soaring*, asked for some assistance with some electrical work on his Open Cirrus N8169 – a 30 year old first generation glass glider with huge 17.8 meter wings. Like many older, and dare I say some newer sailplanes, Jim's electronics and avionics had grown like weeds, bits here and there, taped up junctions, splices, inappropriate wire ratings etc. As I looked more closely I even found that 4-way telephone cable was being used to connect the power line to an un-fused battery. It was a mess and that is being kind – you get the picture. We discussed what needed to be done and I agreed to work on the glider while Jim biked up the Mississippi river on his recumbent bike. I have long since learned that Jim is anything but conventional. As he set off for the bike ride Jim said that he thought it appropriate that as I was doing some work on his Cirrus, he would teach me how to fly it. Jim was going to be away for nearly a month so I had plenty of time to install new wiring and avionics' tubing, as we had decided to replace that at the same time. I worked on 'Six-Niner' during the summer in between flying the 1-26 and reading about the Cirrus, by the time Jim returned everything was done. A couple of test flights to iron out the bugs and Jim was pleased with the results, now came the time to work on me. My preparation began with Jim explaining all the various ways I could screw something up and hurt myself or the airplane.

I guess that as a relatively low time pilot I was concerned about a number of things. But I seemed to be mostly concerned about the take off with a CG hook, the landing with such shallow glide slope, the high cockpit work-load and the fact that this would be my first time in a plane with retractable gear.

Up until this time I had never worn a parachute in a glider, so my introduction began with how to put it on and adjust the straps. I now understand why some pilots walk around like turtles when they are wearing a 'chute. If you tighten the straps as tightly as they are meant to go, you either bend over or talk two octaves higher, I chose the former option.



And we haven't even started yet.

Glass 'Singing Glider'

Anything but conventional!

Time to get in, we took just the fuselage out of the trailer and left it supported in the dolly rather than assembling it at this stage, for reasons that became apparent later. The seat in the Cirrus looks like it was designed for a garden chair and consists of a 'hammock' arrangement rolled around a top tube that is used to tighten or loosen the canvas. Looks odd, but when you get in its very comfortable since it's designed to be used with a parachute on. Adjust the rudder pedals and the headrest and I'm fitted. Its snug compared to the 1-26 and the most disconcerting thing is just how laid back you are – I mean really laid back and this took me a while to get used to, both on the ground and in the air.

Next came the controls and here is the biggest departure from anything I had flown to date, the retractable landing gear. I had to get used to cycling the gear, and that is why we were on the dolly, it's the only way you can practice that procedure. So: lift the handle, push forward and press the handle down to re-lock. I was surprised at just how much force it took, not only that but I had to use my right hand to do it. This would mean flying with my left hand for a short period of time, I made a mental note to practice that later. Next on the list was the trim, not something you worry about too much on the 1-26. There is only one problem, it's down by your left hand just next to a little knob that releases the tail chute, not something you want to release by mistake. Spoilers are just above and the brake is on the control stick, rather like a bicycle brake, and the release appears to be just under my left knee and only just in reach too. "Yeah, Jim says in his usual unflappable way, some Cirrus pilots fly with a lanyard tied on to it so they can pull the release." I decide its ok, just a bit of a reach.

It was at this point I discovered something many pilots who fly higher performance gliders already know, the panel is only just in reach and is often far more complex. In this case I was staring at a GPS/Data logger and transponder along with the usual array of instruments. Jim tells me to leave the GPS showing the distance and bearing from the airfield and shows me how to operate the transponder and the mechanical (wind up) clock – which looks as if it may have come from the Enola-Gay. Any questions? No. I think to myself that we have covered everything, including the little black knob that opens the air vent. Oh yes, and the plastic tube installed for the 'pilot relief system' - "And don't forget to lower the gear before you use it!"

Time to assemble the glider. As Jim is keen to point out, many subsequent design innovations came about after the Cirrus was built, and there are any number of ways to damage the glider just getting it in and out, and I believe him. We move the fuselage back and go through a long checklist of instructions, aligning the wings and getting the spar-pin in place was straightforward, but handling those long and heavy wings requires some strength. the mobile wing support really helped out here. However, unlike modern gliders, connecting the controls can best be described as challenging, and the spoilers

especially so. The process can only be done by feel as the connections are out of sight and require you to pull back a sleeve, push down a wedge and locate connector over the ball fitting and press down, release the wedge and release the spring loaded sleeve – twice. Some fumbling and I had it done, they were checked and then I was told to disconnect them, this was more difficult than connecting and Jim smiled a knowing smile as I struggled with simultaneously trying to pull the sleeve back, push the wedge down and lift the rod.

Thankfully, the ailerons are much simpler to connect and inspect. Next was the horizontal stabilizer and elevator; that just slides into place with a clip that locks it in and the elevator hooks up automatically. One thing that has always concerned me is the Canopy – it is very, very flimsy and needs to be handled very carefully indeed.

Having done that, we put it all away again – I felt exhausted.

My next flight in the 1-26 I practiced flying using my left hand, if you have never tried it then I would suggest you give it a try, and most certainly if you are going to fly a glider that requires your right hand to do something. As I commented after, "I'd give my right arm to be ambidextrous."

I had to wait nearly two weeks for the next stage of instruction, and that was to be a dual flight in the ASK-21 using the CG hook, something I would have to get used to since the Cirrus has no nose hook. My big fear was lack of control authority in the early part of the roll out, but with a light head wind I didn't experience anything out of the ordinary, and the roll out was no different than normal. Jim told me to fly just a little higher than usual to prevent the rope snagging the nose wheel as we maneuvered to the left and right. He then took the controls and demonstrated what it's like to be out of position with a CG hook. It looks very odd indeed to see the rope out at 30 degrees. In some ways it's easier to fly coordinated with a CG hook than with a nose hook. While we flew the ASK, we discussed the similarities in roll rate, thermalling speeds, pattern speeds and the fact that if you let it get slow "It will bite ya," to use Jim's words.

Time and a tropical storm pass until I get an e-mail saying that if conditions were right, we would get the Cirrus out the following day. I arrive at the airport at 9 am and help another club member assemble his LS-4 while I wait for Jim, who duly arrives and supervises me as I assemble the Cirrus – reminding me of all the critical stages of the process, finishing up with the final taping of the wings. A thorough pre-flight and positive control check and we were ready to be pulled up to the flight line, Jim says he will take the first flight "just to make sure no big bits fall off." I hope he was joking. He returns and says that conditions are booming. We had originally agreed that I would take a 2000' tow and land and launch again as Jim was about to set off for Virginia Beach for the weekend – but we discuss this and agree that I should take a 3000' tow and see how I do.

Now it was my turn, I really had only two concerns and they were the take off and the landing. Parachute on and adjusted, I get settled into the cockpit and go through my pre-flight checklist. The controls seem ridiculously light so I look at the wings to check the surfaces. Straps, instruments, spoilers are in and locked, trim is set, tail dolly is off and we get hooked up.

"This will be the most fun you will have had with your clothes on." Jim said, smiling as he shut the canopy. We take up the slack, and I can feel my heart beating. "Pattern is Clear" – "Wing Up" – rudder wag and away we go.

As Jim had predicted it was just like the K-21 when I took off. I maintained just a little forward pressure on the stick and let the Cirrus come gently off the ground and maintained position behind the Pawnee. Tow pilot Bob Michael had been briefed to fly gentle turns and to take me a couple of miles to the northwest of the airfield where good lift had been found earlier in the morning. 1000' and I began to relax a little, in doing so I got a little out of position to the right as the Pawnee turned left but soon corrected that. The rest of the tow was uneventful, watching the altimeter climb to release altitude I checked to the right and pulled the release knob, a stretch but OK, I banked away and thanked Bob for the tow, "Hey, good job on the tow Dave" came the reply. I began to turn and wondered why it was as noisy as it was, then I realized, I had not raised the gear. Taking the stick with my left hand I raised the gear and the change was, to say the least, dramatic - as the wind noise decreased by an order of magnitude, I relaxed and began to enjoy the flight. I set the trim for about 45 knots and explored both plane and the skies, some turns to the left and right, the oil-canning I am used to in the 1-26 was noticeably absent, in its place was the magnificent view of these great long wings flexing instead.

Then, came something I will always remember – it may have been there from the start and I just hadn't noticed it. I became aware of a musical tone, almost flute like in quality, that this (and I'm sure other) sailplanes make. I have heard it in soaring videos before, but never been in a plane that produces it. I smiled to myself, I felt completely at one with the plane and the sky around me, that is why we fly. As if to reinforce this a red-tail hawk came by, perhaps to welcome me to his world, and

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in a moment was gone again.

The cockpit visibility was awesome compared to anything I had flown before, though the canopy was showing its age in the form of a myriad of twinkling lights when the sun caught it at the wrong angle. The control responses were finger light; changes in pitch were quick and the roll rate fairly slow, at least when compared to the 1-26. Pulling back on the stick I let airspeed come down to 40 knots and made a mental note of the attitude. I had lost about 1000' feeling out the controls and set off to find some lift, there was plenty of it around and soon I had the vario showing 4-500 fpm up and was very soon up to 5000 feet AGL. The hours spent thermalling in a 1-26 (you spend a lot of time thermalling in a 1-26) paid off as I flew from point to point and from thermal to thermal.

Other gliders were up that day too, Greg in our 1-26, Glenn in the Ka-7 and Joe in his LS-4; but I felt that I was privileged to be flying that beautiful plane. As the Cirrus wheeled and turned at 7000' in the crystal blue sky, I could see the Shenandoah snaking away beneath me in the valley.

Time for a drink of water and some exploration. I had been told that the Cirrus has long legs and I wanted to stretch them. I flew from one ridge to the other at 70 to 80 knots losing precious little height, the altimeter barely dropping in the booming conditions. Time passed. I watched as two C-130's approached up the valley over the Linden VOR and flew by me, two miles away and 1000' feet below. Their smoky trail remaining as haze long after they had gone. I wonder if the transponder brought me to their attention? Time passed.

I had been flying for just over two hours and drank the last of my water and decided it was time to go home – it seems that the Cirrus had other ideas. Wherever I turned, whenever I turned, we went up; so in the end I pulled spoilers and descended to 1200' AGL and prepared to set up for my pattern and landing. Glenn was ahead of me in the pattern and about to land the Ka-7 on the pavement so I waited in a holding pattern at 1200' in the 'house thermal' until he was clear of the runway, then did a couple of turns with the spoilers open to get to the IP at the correct altitude. I went through my landing checklist and lowered the gear, radioed in and started my pattern. Jim had said to enter the pattern at about 800' and to fly at 55 knots and don't forget the gear – I hadn't. Flying a much wider pattern than I am used to and with half spoilers I turned base and final – it all looked about right. I had set an aim point further down the runway than usual to allow an extra margin. The approach felt good, speed was good - a little over 55, flare and touchdown, apply the brake (which needs adjusting.) and stop just by the taxiway off to the hangers at mid-field. It was over. What a wonderful flight! I got out of the cockpit, gave a whoop of delight and waved at Joe taking his LS-4 apart – he later said something about losing my usual British reserve? Joe helped me put Six-Niner away and the day ended with a meal at the Mill, I don't think the silly grin went away for some time.

What can I say?

Bob Wander wrote about flight instructors in *Soaring* recently (July 1999, pg 11) about how important it was to "Thank 'Em for the job they do... " I've certainly never felt unappreciated in our club, but there have been times when I wondered why so many CFI's spend this much money and time just to be a volunteer.

Well, when you get to "teach" a guy like Dave, it becomes easier to understand.

Dave's story should also ring a bell for experienced pilots who want to fly a machine rather different from those in which they have experience (and that goes for low performance planes as well as high ones). Read the manual, get a thorough cockpit orientation, and get some dual that simulates as closely as possible the "new" plane.

Jim Kellett
Chief Flight Instructor
Skyline Soaring Club

About the Author: *David Brunner lives and works in Harrisonburg, Virginia and is a lecturer at James Madison University. His flying career started in 1998 with Skyline Soaring in the Shenandoah Valley, which he joined in June of that year. He went solo in August and obtained his PPL(G) in December. During that time he has obtained his Bronze and Silver (altitude) badges and became part owner of a 1-26, #081. Prior to joining Skyline he had no other flying experience. Although he sounds like a Brit, he is actually Canadian by birth, but we won't hold that against him. Dave says that just because he has flown in glass, he won't give up his 1-26...well, not just yet anyway.*