Air Force Cadets love German Gliders

By Elke Fuglsang-Petersen
Photos: Jonas Fuglsang-Petersen, USAFA

In April 2011, the US Air Force ordered 19 new sailplanes from the German glider manufacturer DG Flugzeugbau for the USAF-Academy in Colorado Springs. Despite the recession in the United States, 4.8 Million Dollars were spent to modernize the fleet of gliders. segelfliegen INTERNATIONAL wanted to learn more about the cadets' soaring with the German ships.

The 2012 Cross Country Team

The great news quickly spread in Europe where glider companies were also struggling in a difficult market. 14 of the new two seaters (DG 1001 Club) are currently flying at the Academy. The last five ships especially designed and equipped for the Air Force will be delivered later this summer.

Actually, the US Air Force Academy is a College and the University for all those who want to work in one of the many jobs that the US Air Force offers all over the country and worldwide. Afoot the Colorado Rockies' easternmost Fourteener, Pikes Peak, young American air cadets study for example engineering, science or foreign languages. More than 1,000 young people graduate from the Academy each spring. About 25 percent of them are female. Before the upcoming 2012 election, President Obama visited this year's graduation ceremony and pointed out that the 2012-class is the first in nine years to be "entering in a world where there are no Americans fighting in Iraq". Despite this good news, general aviation pilots were not amused about the VIP's visit: Most of Colorado's airspace was closed that day.

In addition to learning for their future jobs, cadets have the opportunity of sniffing into aviation: Sky diving, powered flight and soaring-programs are open to everybody.

The Academy's facilities are spread on a huge area of more than 27 square miles. If you visualize that a cadet has to drive or bike eight miles from the residential buildings to get out to the airfield, you know how big the property is. Besides sports and academic facilities the USAFA also hosts a visitor center which is open to the public. I was quite surprised to find a book "Hiking the USAF Academy" in our local library with descriptions of several hiking trails and overlooks. The Academy's location in the lee of the Rockies is really scenic! But to enter the military part of it, some preparation was necessary.

Contacts between civil and military soaring

Our soaring club in Boulder has always had a good relationship with the Air Force Academy's officers and training staff. In June 2002, Colin had declared a 500k flight from Boulder. On his way back home, he was forced to land at the Academy's airfield as the visibility was dropping below VFR conditions in all quarters of the sky, caused by intense smoke originating from a forest fire in the vicinity of Canon City. "I thought it was prudent to land at the USAFA and deal with the consequences." After contacting the tower, Colin was allowed to land on the huge airfield. "After taxiing up to the control tower, I came to a stop and was greeted by silence. The cadets were evidently on vacation..." A couple of weeks later he met some of the Academy's pilots at a contest and was invited to come visit them at their home base. Ten years later, he finally followed the invitation to Colorado Springs.

X Country Team in Moriarty

View from the tower to the very green glider strip, artificial turf

Waiting for a clearance to cross the ramp

In 2011, Mark Matticola, one of the reserve officers, was awarded the SSA's (Soaring Society of America) Most Active Instructor. He can of course be located at the Academy but also outside. "Coach Matty" attends conventions, seminars and contests throughout the year, always surrounded by his cadets. In February 2012, he held a speech about the USAFA's glider training at the annual Colorado Soaring Seminar. Pointing out the importance of spin trainings, he explained that a cadet after his first 14 flights has maybe done more spins than any licensed glider pilot in the US. Coach Matty loves, lauds and supports his young students and really enjoys his job.

Soloing after 14 flights?

During the summer between their freshman and sophomore year, 550 medically qualified cadets have the opportunity to undertake basic glider training. After 14 aero tows behind one of the bright yellow Piper Super Cubs, 40 percent of the students will be allowed to solo. Another 30 percent takes a little more time and finishes the first part of their soaring introduction during the next semester. After the basic instruction, which of course includes theoretic parts, the young glider pilots can apply to become an instructor.

35 new instructors per semester are chosen to be members of the "Cadet Leadership Program". After an average of 80 training flights and many hours of strenuous ground school, the upgraders are ready to wear the instructor pilots wings and teach their first students. They are so prepared to volunteer their time after school and on weekends. The Commander of the 94th Flying Training Squadron, Richard Roller, explains that these guys are the youngest instructor pilots in the Air Force teaching the youngest, most inexperienced people, some of which who have never been around an airplane or an airport in their life. "We have staff officers and civilian personnel to mentor these young cadets, but the program is entirely run by them. We're giving them the opportunity to accept full leadership responsibility for this program."

Once per year the 70 new instructors complete an application and an interview process to choose eleven cadets to be on the advanced soaring teams. Five of them are chosen to be on the Racing-Team, six will work on with the Glider-Aerobatic-Team. These eleven cadets will now spend two years with their teams and can enjoy even more soaring after attending their College lectures. They are paid for having fun!

Why 19 new gliders?

14 of the 19 new German two seaters play an important role in this whole process: They are the training ships for basic instruction. Therefore the USAF chose DG 1001 Club gliders with a non retractable gear and 18 meter wings. After every 100 hours of business, the US Air Force gliders are being checked and maintained. In an enormously big hangar, about 25 machines (mostly two seaters) are rigged and always ready to go. There is still space for more airplanes. Everything in the hangar is sparkling clean, well maintained and stowed with military precision!

The new DG-gliders have traveled a long way: After their birth at DG Flugzeugbau in Bruchsal in Southern Germany they are

The class of 2014's aerobatic DG 1001 Club

XC cadets in Nevada

Landing after the maiden flight

shipped in huge containers to Arlington, WA. Pacific AeroSport LLC equips the sailplanes with American instruments (feet-altimeter, air speed indicator in knots, flight computer and ELT) and registers the ships with the FAA.

Before cadets can start their regular training in Colorado Springs on the new trainers, the gliders have to be test flown at the Edwards Air Force Base in California. Normally the DG 1001 Club is certified to be flown in the US, but the Air Force has its own rules and each ship needs an individual examination. The flight test pilots put the airplane through the rigors of testing to ensure the glider meets the requirements that the Air Force specified. Some of the Academy's instructors were invited to help with the testing. They had never seen the gliders before and had not been involved in the process of choosing and purchasing their new training ships.

After test-flying, every glider receives a new handbook, which is written by the Air Force. The DG sailplane will now be named „TG-16A". Some procedures in the USAF-handbooks are different from the civilian ones. It could for example happen that different ships have different airspeeds for landing. Each TG-16A now is an individual and yet ready to be driven another 1,000 miles from California to Colorado Springs.

Aerobatic Flying at the USAFA

Five of the new two seaters have a special mission: They are designated aerobatic trainers and have smoke outlets in their wingtips with two smoke containers for each side which can be activated separately. Their design is different from the rest of the DG-fleet. The Air Force has drafted an individual art work for each of the aerobatic ships to be finished by DG-Flugzeugbau. On each tail you can see which class will be flying the colorful glider. The aerobatic trainers are equipped with g-loggers which continuously measure and log g-loads to enable the maintenance crews to identify issues.

In the United States, aerobatic glider flying is considered to be exotic. After a team training in Arizona during the spring break, the cadets participate in three different local and national competitions. When they have learned how to perform Chandelle, Lazy Eight, Loop, Cloverleaf, Immelmann, Split S, Barrel Roll, Cuban Eight, Reverse Cuban Eight, Inverted Flight and Slow Roll the aerobatic pilot's chances to win in a competition are pretty good. Only a small number of US pilots compete in unmotorized aerobatic flight.

This summer will show how well the new sailplanes perform. One of the reserve officers who coach the aerobatic team is still a little skeptical about the DG's roll rate. The superseded L-23 Super Blanik and Blanik L-13AC did roll faster than the DG 1001 Club. But with the new ships having a better airfoil and a much better gliding performance they should be able to compensate with the wider wing span.

The instructors love their new airplanes. Richard Roller explains: "They like the sleek new look, and performance is outstanding.

Flight planing and preparation

Panel in an aerobatic trainer

Cadets walk the ship back to launch

It is a "go fast" airplane and yet a very stable platform as a basic trainer. The aerobatic use of the airplane is great, although the roll rate with the wingspan is slower than the Blaniks we used. All in all, it is a great new airplane that will have long term value for our programs. They even have that new airplane smell!" After issues with the life time of the well maintained Blanik fleet became obvious, the big purchase was necessary. Some of the old but good Blaniks are now flying with the Civil Air Patrol.

As for DG-Flugzeugbau, they are now busy working on three DG 1001 Club for the Indonesian Air Force. In November 2012 these gliders will be delivered to Asia.

Cadets fly Cross Country

The USAFA's X-Country team also uses German gliders. Ten cadets call a fleet of two Schempp Hirth Duo Discus and three Discus 2 their toys. During the summer months they participate in different contests. Five officers are always around to coach the team. Before the contest season starts they hold a two week long training camp in Littlefield, TX, where no big mountains are blocking their way. New XC-pilots learn to fly out far and to post their flights in OLC. In June 2012, the XC-cadets competed in the Region 9 contest in Moriarty, where they trained a lot of out landings. They were awarded for successful landings in different areas of New Mexico and received a "citizenship" on their preferred out landing airfield Estancia. No broken gliders, no accidents!

Other than the aerobatic-cadets, the XC-pilots have to fight competitors who are much more experienced civilian glider pilots. Some of the older pilots are kidding about the young guys in their white shirts and blue shorts. But they resist the joking with humor and give away baseball caps and stickers with their logos. Thinking about the future of soaring sport, we all hope the cadets will keep on flying gliders and promote the sport!

Their next 2012 contest in Parowan was a national competition, where the cadets had another good training for their last trip to the Air Sailing Sports Class Contest in Reno. Cadet Dave Dunkel recounts: "Reno was a blast, and a constant learning experience. We had one of our aircraft, team flown by Ryan Moran and Chris Olson take third place

Preparing for the day

for the contest. They also won one day. Ryan had three flights over 130 km/h on OLC." After six weeks of continuous flying, the Air Force cadets brought home 16 state youth records in Colorado, Texas, New Mexico and Nevada. They accomplished over 50 SSA and FAI badges and badge legs for the season to include five silver and five gold FAI badges and they hold the USAFA distance record for miles flown in a season at over 25,000 OLC miles. This is more than some of the civilian clubs could do in a year!

During our visit the question rose how military licenses can be transformed into civilian papers. The answer is there is no transcription possible. The young guys that are graduating from the Academy after three years of soaring have lots of experience in the sport. But they will have to pass a civil written and a practical test, like any other student pilot, to obtain a US glider pilot certificate. It will take them some time and money but the tests should not be a big issue...

A landing area made of plastic...

Back to Colorado Springs: Not only the glider fleet but also the airfield has been improved this year. The Academy's airfield which even American pilots would call "too big" is at 6,500 feet above sea level in a mostly dry area of Colorado. Two paralleling runways and a third crossing runway are part of the field. The tower operates on two different frequencies for powered and glider traffic. It is located between the mostly used parallel runways and so controls two different traffic patterns. In the "powered pattern" you can observe up to five planes flying at a time. In the glider pattern there is even more traffic: Aero tows, glider training, an aerobatic box and often skydivers. A student who has to travel his glider around all the other planes will quickly learn to fly with open eyes.

Aero tows launch from asphalt but the glider landing area is made of the biggest artificial turf piece on earth. This sounds crazy, but there is a reason why the Academy rolled out the more than 30 acre big plastic field, which has the size of a small European glider port. The bright green grass with two even brighter red stripes does not need any maintenance, no water, no lawn mowing. In March 2012, 3.8 Million Dollars were spent for this long living and soft lawn, which tolerates over 7,000 landings per year. The new fiberglass trainers will appreciate the comfortable touch down surface. The Astra Turf is considered to be an investment for the next 25 years.

Graduation ceremony 2009

LT Col Roller and coach Mark Matticola

Aerobatic ships in the huge hangar