



# DOWNWIND

THE OFFICIAL NEWSLETTER OF THE MONTREAL SOARING COUNCIL

## From the Editor

By Dave Clark

This edition of Downwind is made possible largely due to the literary efforts of Terry Beasley, for which I thank him very much. Terry and I both think that a regular club magazine of this type is useful for all members. There is also a small team currently planning some interesting and innovative changes to the club web site, so I think you will be very pleased with that when it goes live.

In an effort to avoid duplication of information, the web site team would like members to send all digital photographs to me by e-mail so that I can choose the best ones for Downwind. Every one of the others will be posted on a special page in the web site, so everything will be seen, but nothing will be duplicated!

Please give Terry a break in future issues and send me anything of interest that you would like to share with your fellow members. Our Francophone membership has grown considerably in the past two years so you, too, are encouraged to send me articles in French. Everything will be published.

Now read on because there's a whole lot of good stuff in this issue!

## Solo Training

By Terry Beasley

In the early days of aviation pilots had, of necessity, to teach themselves to fly. The early successful pioneers, notably the Wright brothers, soon realized that a two-seat aircraft with dual controls was the sensible way to teach others. In addition it opened the opportunity to carry passengers to let more people enjoy the experience of flight.

Prior to the First World War gliders had been viewed primarily as a means towards powered flight. The very concept of soaring for any length of time was unheard of, so there was very little incentive in learning to fly a glider when powered aircraft, with dual instruction, were available.

The peace Treaty of Versailles at the end of the First World War completely changed this attitude. Germany was forbidden to build or operate powered aircraft so some aviation enthusiasts took another look at gliding. In 1920 Oscar Ursinus, the editor of the German magazine 'Flugsport,' called for a meeting of glider enthusiasts at the Wasserkuppe. (A site that had seen quite a lot of pre-war gliding activity. Today the Wasserkuppe is the home of the German Gliding museum, which is well worth a visit). This first Rhon meeting was hardly a success as very few practical gliders were brought to the site and, as the weather turned bad for the last few days, it was decided to extend the meeting for an additional week. This extension was fortunate as it allowed the entry of a glider built by a student group from the University of Aachen. The glider was called 'Schwarzer Teufel' (Black Devil). For the first time ever launching was made by a bungee rubber rope catapult, which was to become the standard launching method for many years, particularly at hill sites. On the first day that the Schwarzer Teufel flew it beat the previous best flight of the meeting with a flight of two minutes

### IN THIS ISSUE

1	From the Editor
1	Solo Training
6	Predator or Prey?
7	My First Gliding Training
8	Season Ends for the Perlan Project
9	Reduce the Risk of Mid-Air Collisions

and twenty-two seconds with a distance of 1830 metres from the starting position. On another flight it gained about 30 metres above launch height, which was possibly only the second soaring flight since that of the Wright brothers flight in 1911. With these flights, which are nothing by today's standards, the Schwarzer Teufel won the meeting.

Although this first Rhon meeting was hardly a success in itself it did lead to the meeting becoming an annual event and can possibly be credited with being the birthplace of the sport of soaring.

The Rhon meetings caused keen competition between enthusiasts but did little towards teaching the art of flying. This led to a desire for a very simple, cheap, easy to build, rudimentary glider that was capable of flight. Thus was the primary glider born. There were many variations of the primary but all had some similarity. They consisted of a simple triangular frame, often called the 'A' frame, on which the pilot sat. On earlier designs the pilot sat inside the triangle of the 'A' frame, which meant that he had a strong wooden member just in front of his head, which obscured his view. (For obvious reasons this structural member soon became known as the skull splitter). In later designs, for example the Zögling (pupil), the triangle was extended forward so that the front 'A' frame member was also used to mount the seat back. The frame was extended aft by a simple truss structure, called the gate (because it looked like one!), to support the tail assembly. The wing was mounted near the top of the 'A' frame and was supported by landing wires and braced by flying wires. The tail assembly was braced to the wing by more bracing wires. There was no wheel or shock absorbing to reduce the bumps of landing. In order to gain some slight improvement in performance many primaries were fitted with a lightweight permanent or removable nacelle for the pilot.

It should be noted that there were some two seat primary gliders produced but, for some strange reason, they never became popular as trainers. I believe that there is one specimen still flying occasionally with a vintage group in Denmark.

The training method was to introduce the student first to aileron control by simply requiring him to keep the wings level on a windy day. The following stages of instruction varied from location to location and could use a bungee, car, or

winch to provide the motive power. As I was only involved with winch launching on a flat site I will only describe this type of operation.

Training consisted of five stages, as follows: -

- a) Ground-slides. The purpose of ground-slides was to teach aileron control. The glider was towed at less than stalling speed and the student attempted to keep the wings level. The student was also told to keep the stick in the fore-and-aft neutral position. A very bad feature of some sites' solo training was that sometimes the student was required to zigzag across the field with the wings level. This, of course, led to very poor turn co-ordination when the student later graduated to turns. After demonstrating proficiency at keeping the wings level the student graduated to low hops.
- b) Low hops. The low hop stage was possibly the most dangerous stage in solo training. The student was told to keep the wings level, with the stick neutral, and as the glider accelerated he was to ease it very gently aft so that the glider would take off. He was then to return it to neutral so that the glider would fly just a couple of feet above the ground and he was to attempt to maintain this height until the winch driver reduced power so that the glider would land. The danger here was that it was not easy for the winch driver to maintain the correct speed and, if the student had flying speed and suddenly pulled the stick back, the glider could quickly gain height, scaring the student who might then have pushed forward towards a heavy landing. Here the skill of the winch driver came in; he could give a burst of power just as the glider was about to make its impact hoping to get the glider's nose up enough before reducing power gradually for a landing. The winch driver probably did more to help the student than did the instructor who only stood and watched! When the student was competent to take off and maintain level flight he would be asked to make his own landing when the winch driver cut the power. When he was considered proficient at take offs and landings, and keeping the wings level, he would move on to medium hops.

c) Medium hops. The medium hop was nothing more than an increase in height of launch to allow the student to make longer flights and perfect his landings. He was also required to deliberately make a careful take off, and then level out to continue his flight until the winch cut power.

d) High hops. The high hop was a significant milestone in that the student was now allowed to release the tow. He was instructed to initially climb higher and then level out and release the tow. He would then continue the flight to make a good landing. At this stage he would attempt to make a free flight of thirty seconds to earn his FAI 'A' badge.

Prior to this stage the student had not made any real turns. This became the next stage of instruction. The method of turning the glider was explained and the student was required to make a gentle turn one way then to follow with a gentle turn the other way to bring the glider back on track towards the winch. The amount of turn obviously depended to a large extent on the distance available and the strength of the wind. The FAI 'B' badge was awarded after a flight of at least one minute with a turn in both directions. Two previous flights of at least forty-five seconds were also required.

e) Circuit. The first circuit was a great day for the solo trained pilot. He was going to go higher than ever before and was going to fly right over the winch! He was told to take off quickly and start his climb, which was to continue until he felt the winch ease off the power. He was then to release the tow and immediately turn left when, hopefully, he could see the take off area and see how much height he had to complete a circuit. Usually he was required to stay inside the downwind leg boundary of the field and turn base shortly after he passed the take off point. (In a primary glider there was no problem of visibility!). If he found that he was too high he would lose height by making 'S' turns. He would then land long, near the winch.

You can see, from this brief description, that solo training was a slow process, which required a great deal of ground handling. Good communication between the take off point and the winch was essential to ensure that the winch driver did not give a full power launch for a ground-slide! One club of which I was a member used four large signal boards that were mounted on a stand at the launch point, with a similar set at the winch. One board on display showed that a ground-slide was required; two for a low hop, etc. The winch would respond that the requirement was understood by displaying the same number of boards.

One good feature of solo training was that it was excellent in developing a good team spirit and a disciplined approach. It is possible that it was this aspect that justified its continued use in Germany after the Nazi regime introduced the NSFK youth flying groups. There were many excellent two-seater gliders produced prior to and during WWII which could have been used for much more efficient dual training, but they seem to have been reserved for more advanced training.

In retrospect it now seems strange that, when civilian gliding resumed after the war, the old method of training continued. It is probable that this was largely because the proverb 'you can't teach an old dog new tricks' prevailed within the gliding Establishment. In England even after the introduction of dual training there were still some who maintained, despite the evidence to the contrary, that solo training was better. I believe that solo training in England finally came to an end in 1955.

In the USA the story was different in that the US Military had used two-seat gliders to train their military transport glider pilots and many of these two-seaters were sold off immediately after the war at bargain prices. Gliding clubs and pilots quickly snapped them up and that was the end of solo training in the USA.

Solo training was used in Canada after the war but several of the surplus US military trainers found their way here. John Agnew, one of the pre-war glider pilots in the Montreal area and a founding member of the MSC, formed a group that purchased three Pratt-Reads. One was still active when I joined MSC in 1957 and it was the glider on which I was checked out to fly all gliders in the MSC fleet.

Let us now take a brief look at some of the gliders that were used, starting with more details of a couple of primary gliders.

Fig 1 shows a Dagling. The original German Zögling (pupil) was designed in 1926. It was copied with various changes, including the introduction of four steel tubes to carry the tail unit to replace the wooden truss gate. The name Dagling was derived by combining 'ling' from the German name and 'Dag' from the name of the R.F. Dagnall Company who built the British version. This version was actually based on drawings provided in 1929 to the newly-formed British Gliding Association by the American National Glider Association (the forerunner of the SSA).

Brief details of the Dagling are: -  
Span, 10.35 m; Length, 5.45 m; Chord, 1.5 m;  
Wing area, 15.06 m<sup>2</sup>; Empty mass, 82 kg; Flight mass, 173 kg; Aspect Ratio, 7:1; Wing loading, 11.5 kg/m<sup>2</sup>; L/D (max), 8; Stall speed, 22 knots.

Figure 1 shows a Dagling glider in flight. This is a pre-war photo of a British version.

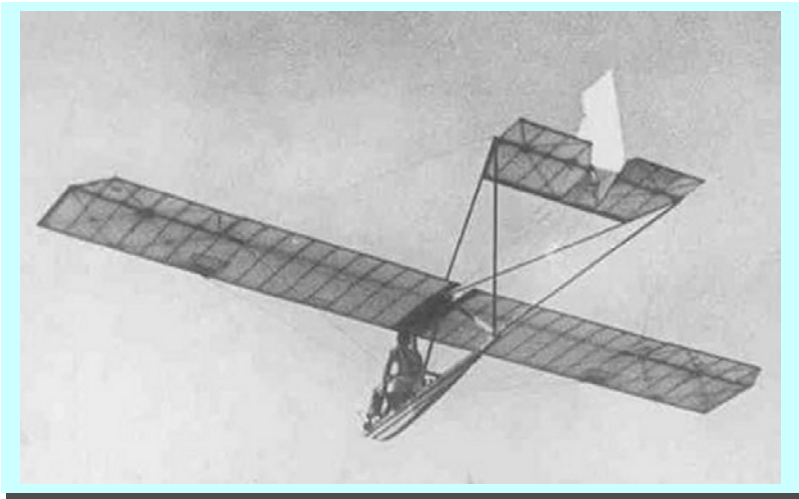


Figure 1

Development of the primary glider continued in Germany culminating in the SG-38. SG is an abbreviation of Schulgleiter and 38 is the year of its introduction. It is shown in Figs 2 and 3.



Figure 2

Figure 2 shows a genuine example in a museum. Some of the improvements can be seen in the photograph, including stowages for ballast weights (seen on the aft 'A' frame member and just below the rudder pedals), parallel-acting rudder pedals in place of a simple rudder bar, and well designed tubular damped spring shock absorbers. This particular specimen only has a bungee hook and no tow release mechanism. The main 'A' frame structure was also improved, being built up as a box structure rather than of solid wood. One of the improvements I liked most was the introduction of a central screw jack at the top of the 'A' frame. This simplified rigging as the wings were rigged level by adjusting the landing wire turnbuckles (four of them) and the flying wires and bracing wires (all ten of them) were then adjusted. Finally the required dihedral applied by adjusting the screw jack. (I might mention that I believe that after fifty years I could still rig an SG faster than a Krosno!).

The safety helmet was a standard NSFK requirement.



**Figure 3**

Fig 3 shows Geoff Moore's Vintage Glider Club SG (actually built in 1949 by Elliott's of Newbury) in flight at the London Gliding Club's sixtieth anniversary celebrations. It is shown flying, in good company, over the London Gliding Club's site at Dunstable Downs, some thirty miles north of London.

Brief details of the SG-38 are: - Span 10.5 m; Length 6.28 m; Chord 1.6 m; Wing area, 16 m<sup>2</sup>; Empty mass, 105 kg; Flight mass, 210 kg; Aspect Ratio, 6.77; Wing loading, 6.6 kg/m<sup>2</sup>. I have been unable to find any performance data.

Fig 4 shows a Slingsby Type T-7 Kirby Kadet, designed in 1936 as a follow on in training from the Dagling. Note that Kadet was Slingsby's preferred spelling as he thought it went well with Kirby, which was his abbreviation for Kirbymoorside where his factory was located. During World War II the design was adopted by the British Air Training Corps (A.T.C.), who preferred the English spelling, Cadet. In 1937 Slingsby

introduced his Type T-8, which was a tapered wing version of the Cadet. The A.T.C also used this glider but called it the Cadet Mark II. Many years later, 1949, Slingsby brought out the Type T-31 tandem tutor two-seater, which used the same wing as the Tutor. This, too, was adopted by the A.T.C. and designated the Cadet Mark III.

Brief details of the Kadet (are: - Span 11.7 m; Length 6.36 m; Chord 1.375 m; Wing area, 15.8 m<sup>2</sup>; Empty mass, 134.5 kg; Flight mass, 232.7 kg; Aspect Ratio, 8.67; Wing loading, 14.7 kg/m<sup>2</sup>. I have been unable to find any performance data.

I have flown all three of these gliders and my personal preference is the SG-38. Its development over the years really shows. The control harmonization was excellent compared to the other two types.

Fig 4. The Slingsby Kirby Kadet. This airworthy example belongs to [Richard Moyse](#) of the Vintage Glider Club. This is early model, which does not have a wheel, simply a wooden skid supported by rubber doughnuts, which provided some shock absorption.



**Figure 4**

I have flown all three of these gliders and my personal preference is the SG-38. Its development over the years really shows. The control harmonization was excellent compared to the other two types.

As a final note, in June 1960 a slightly cleaned up Cadet was flown on a 212 km cross-country from Dunstable. ❖



## Predator or Prey?

*From Terry Beasley*

The following article, by Bob Pettifer, chairman of the BGA Instructors Committee, is from the Apr-May 2003 issue of the British Gliding Association's excellent magazine 'Sailplane and Gliding.' I suggest that all MSC pilots read it very carefully and adopt this lookout procedure. It may help you to put it into practice if you try and use it in other daily activities such as driving your car. Terry Beasley.

Predatory animals high in the food chain have the visual equipment that is appropriate for stalking - watch a cat as it hunts a bird or a mouse. In common with predators humans, too, have their eyes in the front of their heads. This set-up gives a small searchlight-shaped cone of good and accurate three-dimensional vision that is ideal for hunting, but our peripheral vision -which accounts for most of our field of view - is less acute, and at its extreme edges is in black and white, and capable only of bringing our attention to relative motion.

In other words, out of the corner of your eye you may see something move but you won't have the slightest idea what it is unless you look directly at it. The rabbit, in common with many prey animals, has its eyes on the sides of its head, and virtually 360 degrees of vision. This allows it to keep an all-round watch for predators, and helps when it takes evasive action. Humans do not have the luxury of 360 degree vision (ours is about 200 degrees), and in the air we have to go against the "lock-on" habits of the predator and, in effect, act unnaturally. In a lot of mid-air collisions, which incidentally are usually the result of one aircraft flying into another from the "target's" five or seven o'clock position (not from head on), it is obvious that we don't look out correctly, or enough.

In consultation with the Safety Committee, the Instructors Committee has introduced a more positive exercise to try to improve lookout in all areas of flight. As you would expect, most accidents happen in areas of high aircraft density and when the workload is high, such as in thermals or in the circuit, and especially near or on the approach.

Because lookout should be as integral a part of the natural action of flying a glider as good co-ordination, we have introduced a "scan cycle" into the straight flight and turning exercises. The idea is that whatever the glider is doing, the pilot develops a natural scan cycle, which is more or less continuous. The whole cycle - as described below - will take about 15-20 seconds. Any less than this and it won't be done thoroughly enough. Much longer than this and it will miss fast approaching aircraft. The military already teach this scan cycle, and if you watch film or video showing, say, the Red Arrows you will see pilots continuing the scan cycle whatever their aircraft are doing.

It goes without saying that if you aren't able to find time to look out whilst you are flying, then your skill level is not good enough, and you are a risk both to yourself and other pilots. The recommended scan cycle can be summarized as:

- **Lookout**
- **Attitude**
- **Instruments**

If you are flying straight, check your attitude at the same time as looking ahead at, and then above and below, the horizon. Then look out to one side or the other, stopping every 45 degrees to look along the horizon and then above and below it. At the 90 degree point you must remember to look as far back as you can. Next, look directly overhead, then go back to straight ahead, check your attitude and confirm it by checking the instruments. Repeat the cycle the other side of the aircraft.

While turning, centre your lookout scan on the horizon in the direction of the turn, and make sure that you keep up the general pattern of the scan; not forgetting to check underneath and above so that nobody climbs into you or you into someone else. By doing the scan in a cyclic fashion you are always aware of the attitude of the glider (and hence the speed) and of other aircraft. It is a busy

time in an occupied thermal but if you can't hack it, get in some practice in less crowded skies.

Remember to look out carefully prior to entering or exiting turns. The scan cycle applies to all flying even when you think you are alone in the sky. If you're avoiding an aircraft, try not to concentrate exclusively on it. What about the other one (two, three...?) that you've forgotten to pay attention to?

When you decide to join the circuit, note all other aircraft in the vicinity, including those that may be behind you when you're on the circuit. While you are flying downwind, keep the scan cycle going, and don't become preoccupied with the landing area; surprising as it may seem, you can assess progress whilst you are looking out!

I hope you will have been flying regularly during the winter and staying current, but by the time you see this article spring will have arrived and the daffodil pilots will once again have emerged. The chances of a mid-air collision increase if non-current pilots are trying too hard to fly the glider, and so spend far less, perhaps almost no time at all, looking out. If you aren't current then no matter how good you think you are you'll have lost your edge and will need to take more care until you regain it.

There is always a risk of meeting another aircraft wherever and whenever you are flying, so you do need to look out all the time if you want to continue to be the predator and not become the prey. ❖

## My First Gliding Training

*By Terry Beasley*

In the September 2002 Downwind I described my first flight in a glider. I left an open question for aviation historians to identify the glider. There were three responses, all correct. The glider was an Airspeed Horsa 2, as illustrated in Figure 5.

A British designed military transport glider, which could carry 20 to 25 fully-equipped soldiers, or a jeep with a small field gun. Maximum take-off weight 7000 kg (15700 lb.) All wood construction. Tricycle wheels were jettisoned after take-off. Pneumatic split flaps for landing. This glider paid a very significant role in the D-Day Normandy landings when it was used to secure inland strategic objectives. The glider shown carries the white stripes which were hastily painted on all allied aircraft just before the invasion to help avoid accidental 'friendly fire.'

Span, 26.82 m (88 ft); Length, 20.42 m (67 ft), Wing loading, 68.6 kg/m<sup>2</sup> (14.1 lb/ft<sup>2</sup>)

In my previous article I mentioned that my first real gliding began somewhat later than that memorable first flight. In 1946 I was still in school, where we had our own Air Training Corps (ATC) Cadet squadron, and I was selected to attend a gliding course at Elstree airfield, some thirteen miles north of London and within easy cycling distance from my home. Elstree airfield existed in pre-war days as a quiet little grass field where



**Figure 5**

most of the aircraft were privately owned by wealthy Londoners. During the war, however, it took on a more ominous role as it was the base for RAF Lysander aircraft, which were used to fly agents to, and from occupied Europe and to drop supplies to the allied sympathizers. The Lysanders were painted black all over with tiny RAF roundels to meet the Geneva Convention requirements.

In those days most gliding clubs, and the ATC, were still using the old solo-training method of instruction, which I describe in an accompanying article.

At the ATC school at Elstree we started off with five gliders consisting of one Dagling and four Slingsby Kirby Kadets. (Both these types are described in the accompanying article on solo training). By the end of the course the Dagling was written off, two Kadets were damaged and one was written off! The Kadet write-off was not by one of the students but by a trainee instructor doing his first circuit. He flew too far away from the field and managed to hit the only very solid oak tree in an adjoining field! His pride was hurt, but his body was only bruised.

During the course I did nine ground slides and eight low hops on the Dagling, followed by ten low hops and three high hops in the Kadet. At that time the FAI requirement for the 'A' badge was simply to have made a flight of thirty seconds with a good landing. Unfortunately in those immediate post-war years not many people had watches and even fewer had watches with a seconds hand so none of our flights were timed. This meant that those of us who graduated from the course were not even able to claim our 'A' badge! I had to wait another year for this! ❖

## Season Ends for the Perlan Project

From the following web site:

<http://www.perlanproject.com/Perlan/>

Here's an update to an article that appeared in Downwind in December 2002.

September 20, 2003, Omarama, New Zealand. Trying to take advantage of a favorable weather pattern due to occur during the night, Pilots Steve Fossett and Einar Enevoldson made a 3 p.m. launch yesterday and another flight at 7 am this morning. Unfortunately the wave was not very high and the peak altitude attained was only 24,500 feet.

The Polar Vortex is not close enough to New Zealand to permit flight to our goal altitude of 62,000 feet or even to break the current glider altitude record of 49,008 feet. In addition our NASA Research Igloo needs maintenance in order to continue effectively our scientific mission. These factors have led to the decision today to stop altitude attempts for the season.

The Perlan Team is returning home, but the glider will remain in Omarama. Next season will extend from June to September, 2004. The Team plans to be on Standby during that period to take advantage of high altitude flight opportunities

All of Steve Fossett's adventure challenges are supported by Michelob ULTRA, the new low-carbohydrate premium beer from Anheuser-Busch - the world's largest brewer.

For additional information on the Perlan Project, please see: [www.perlanproject.com](http://www.perlanproject.com) or contact Steve Tollestrup (Gliding New Zealand Publicity Coordinator) e-mail: [director@tearfund.org.nz](mailto:director@tearfund.org.nz) telephone office 64 (0)9 836 7968, mobile 64 (0)21 483 273.

For further details on all of Steve Fossett's adventure challenges, see [www.fossettchallenge.com](http://www.fossettchallenge.com) or please contact Nicola Horne or Stuart Radnofsky (Project 100 Communications / Steve Fossett Challenges) e-mail: [info@project100.com](mailto:info@project100.com) tel. 44 1727 836238 ❖

The picture on the left was taken by Martin Detering on October 24. Who says gliding is just for the birds?



# 35 Rules to Reduce the Risk of Mid-Air Collisions in Gliding

From Pierre-Andre Langlois. First published in the August/September 1993 issue of Downwind.

## WARNING

1. Instructors, teach your pupils, beginning with the first day, that soaring can be dangerous if done wrong. Teach the right way, consistently, how to avoid collisions, and let them exercise it over and over again!
2. Pupils, believe the warnings of wise and critical comrades. Don't imitate the big-mouth and so-called daredevils.
3. If you have the right of way, have respect for the danger and be fair to others. Giving way is not as bad as a parachute jump, or even death.

## LOOKING

4. Airplanes, which you recognize in time, always keep in sight, and avoid, will be no danger.
5. Poorly visible objects can be difficult to recognize by just looking around. Watch the airspace systematically, in sections.
6. Your eyes don't adjust quickly from close to far sight. After a quick look at the instruments, fix your eyes first on a distant point before you watch the whole airspace.
7. Airplanes on a collision course seem at first to be stationary to the background. When they grow bigger, it is time to give way. Two airplanes going 100 km/hr have a 56 meter per second closing speed.
8. Gliders that you can see in the distance, flying directly toward you, usually are no danger if they are at the same altitude as you are, or lower. Beware of the higher flying ones.

9. When flying in formation, it is safest in stagger formation. All pilots must be able to see each other constantly.

10. Occasional friendly waving to the other pilot can be used as a means of determining whether or not they are watching. If he does not wave back, he probably doesn't see you. Fly away.

11. There are situations in which the leading pilot can see very little, or not at all, in some directions. Consider this, and pay even more attention yourself.

12. Watch not only the gliders close by, but be on the look-out for others. More danger comes from the ones you have not yet seen.

13. If you find yourself climbing faster than other gliders some distance away, don't lose sight of them. Chances are, they will be scrambling to join you in your thermal.

14. Never fly into clouds! It is blatantly illegal, and extremely dangerous. What you cannot see, you cannot avoid. Stay at least 500 ft. below cloud base.

15. Never fly so close around a mountain that you cannot see another glider coming from the other side toward you.

16. Around the airport, watch all take-offs and all other airplanes, especially the tow planes, which are sometimes difficult to identify when returning.

17. Never depend on others to see you after you have lost sight of them. Flying away is the only solution.

## CONDUCT

18. If you see an airplane on a collision course with you, make yourself clearly visible by changing direction.

19. Never fly directly above, behind or underneath another glider. Never allow another glider to fly directly above, behind

or underneath you.

20. When sharing a thermal, fly at the same altitude, around the same center, in the same direction, and at the same speed. If you cannot continue to do so, leave the thermal. If you return, do so at a lower altitude.

21. When flying into a gaggle, fly a slowly narrowing circle, carefully fitting into the right position, preferably lower than the other gliders.

22. When flying into a gaggle, slow down before entering. Never do a "zoomie" into a gaggle.

23. If a gaggle seems to be too dense, STAY OUT!

24. Never insist on the rights of the finder. Fly away if you feel crowded, or even in danger.

25. Give as much room as possible to instructional aircraft. You could disturb the instructor or "spook" the solo student if you get too close. Remember, you too were a student, once.

26. In the mountains, the glider with the right wing toward the mountain has the right of way. Leave enough space to fly by.

27. In the mountains, do not overfly or underfly another glider unless you have more than 100 feet vertical separation.

28. Oncoming rain, turbulence or other bad weather often leads to mass landings. Anticipate, and land before the confusion starts. Once you have landed, get your ship off the runway immediately, and make room for others who are probably right behind you.

29. If you see another glider in the pattern at the same altitude and position, let the other pilot know that you will land first with a short approach, so that the other pilot can fly a wider pattern.

30. On the landing approach, have enough altitude reserve to be able to get out of the way of an unexpected approaching glider.

31. If, on landing, you spot another glider right behind you, land long and at the edge of the runway.

### UNIVERSAL

32. Be fair to all airspace users, just as you expect them to be fair to you.

33. Never lose respect for danger!

34. Have the guts to say NO to risk. Don't be embarrassed to be called a "chicken." Boldness weighs lighter than a destroyed airplane, or even death.

35. Never say, "That will only happen to the other guy. It cannot happen to me." The danger of collision does not exclude the experienced pilot. Only the most aware, careful and disciplined pilot can avoid it. ❖

