



Instructor and Coach **NEWSLETTER**

Welcome to the Spring '98 edition of the Instructor and Coach News Letter. Firstly a big thanks to all those who responded to the last issue, it makes slaving over my lap top seem worthwhile.

All comments are taken seriously and some have lead to articles in this issue, the more you guys feedback, the better the news letter will be.

Each successive issue seems to be getting bigger and this one is no exception. Some of the articles are quite long but don't be put off, it's all good stuff.

Some of the articles in this issue ask for your comments which will be greatly appreciated, though feel free to respond to anything written.

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SPECIAL NOTE: TECHNICAL MANUAL AMENDMENT 04/APRIL 98 IS ENCLOSED WITH THIS ISSUE OF THE IC NEWSLETTER. PLEASE UPDATE YOUR TECHNICAL MANUAL AS SOON AS POSSIBLE.

THE PILOT TRAINING PANEL

THE PILOT RATING SCHEME

The Pilot Rating Scheme (PRS) is in existence for two main reasons. Firstly it provides a structured learning programme based upon progressive exercises and theoretical knowledge tests. Secondly it helps to educate pilots to a standard where they are able to fly safely with other aviators without the need for direct supervision.

The PRS is relatively straight forward though there seems to have been some confusion regarding the difference between the 'exercises' and the 'tasks', with some instructors training using the tasks rather than the exercises.

To clarify, the PRS can be broken down into three interlinking parts:

Firstly the Syllabuses; these show the subject

training areas and skills which must be covered.

Secondly the Training Programmes; these comprise of a number of 'exercises' (13 for PG and 20 for HG) which are a guide to instructors as to when and how the contents of the syllabus should be taught.

Thirdly the Tasks; these are designed to check the training given to prove to both instructor and student that the knowledge has been transformed into performance.

In short the 'tasks' merely indicate whether the 'training exercises' have been successfully covered by way of testing pilot ability. The tasks must not be used alone in place of the training programme exercises!

THE MITSOS REVERSE LAUNCH by Bruce Goldsmith

The following article by Bruce Goldsmith describes a new reverse launch technique developed in Australia by a chap called Mark Mitsos. I would be grateful for the views of instructors and coaches, having practised the technique, prior to a possible article in Skywings. Comments to the editor (details on cover page).

This spring I went to Australia for the first PWC of 1998, and in T Sydney I was met by my old friend Mark Mitsos, who like me is a hang glider pilot turned paraglider pilot. We went flying together at Stanwell Park, and I was very impressed by his effortless reverse launching, and superb control of the paraglider not only in a strong wind, but also in a small space between several hang gliders laying flat on the ground. Mark spent the next half hour explaining his technique to me and when trying it out I felt like a student again, learning to fly. But it was well worth the effort for me, and I am sure that for most pilots it will be worth spending the time to really get used to this new technique. Mark developed the idea by studying all the existing variations of the reverse launch, there are 3 which I know of. These are the British Standard reverse launch (which I use), Cross brake reverse launch and lastly the front and rear risers with no brakes. Mark developed the idea 5 years ago and has been successfully teaching it in his school, the Sydney Paragliding Centre ever since. Also the HGFA (Australian federation) have now decided to standardise on this as the best way of reverse launching and to be the only technique to be taught in schools in Australia. The main advantages of the technique are:

- 1) Better overall control of the glider.
- 2) Can steer the glider as it comes up.
- 3) Can stop overshooting in strong winds.
- 4) Don't need to release the brakes at all.

To start it is important to get in the correct position

- 1) Face forwards, away from the wing, with the brakes attached to the risers.
- 2) Turn around to the left, and allow the right riser to pass over your head.
- 3) Now you should be facing the glider with the right riser on top of the left riser, with the risers crossing.
- 4) Pass your right hand over the risers and grab hold of the right brake handle from the outside (attached to the riser which is on top),
- 5) Pass your left hand under both risers and

take hold of the left brake handle.

6) Then grab the shackles at the top of the C risers. (it is safer to take the C risers first before the A risers, as this gives more control in windy conditions)

7) With your right hand grab hold of the shackles at the top of both A risers.

8) Check that you are holding the C risers are between the two D risers..

Now you are ready to go. (If you prefer this can of course also be done the other way around, by turning to the right.)

The Method.

1) Build a good wall first by pulling on the A risers and the C risers alternately.

2) Lean back on the risers so that they are all tight, then pull gently on the A risers to guide the glider up into the air.

3) As the glider comes up you should walk sideways towards the centre of the glider if it does not come up exactly straight.

4) You can also use the C risers to correct the glider if it starts to go off to the side. Don't pull down on the C risers, but move them from side to side to steer the glider. Move the C risers from side to side to control the lateral movement of the glider. Move the risers towards the lower wing. For example if the left wing is lower then move the C risers to the left to correct it.

5) If it is windy the glider may want to shoot up violently. To stop this just pull on the C risers to control the speed that the glider comes up.

6) Now the glider is up, it is easy to control the glider overhead using the C risers or even collapse the glider again to the ground.

7) Alternatively you can turn and launch. As you turn make sure that in light winds you turn and step forward at the same time otherwise the glider may tend to overtake you.

Ground handle in a flat field in a smooth wind for an hour before trying it for real. In fact several ground handling sessions will probably be needed to really get used to the new technique.

For me it felt very strange at first, moving the

C riser hand towards the lower wing felt like the opposite direction to my instincts, so be careful not to do the wrong thing and smash the glider's nose into the ground. One common error is to try steering the glider with the A risers. This does not help at all. Always steer the glider by just using the C risers and walking sideways.

The key to the technique is to take the time to build a good wall. A good trick to prepare the glider for launch is to move your C's hand left and right as far as possible each way. This will pull the tips of the glider under and help to keep them from rising too quickly during the inflation. It is only possible to use the C's to correct small turns, therefore if the glider goes a long way out of line the only way to sort it out is to collapse the glider back on the ground. It helps to be able to identify the risers easily, par-

ticularly the A and C risers. Most manufacturers mark the A risers, but to identify the C risers I put some red tape on the shackles of my glider.

In Conclusion I have seen many pilots crash as a result of ground handling and launching in strong winds. Some pilots seem to accept bad and dangerous take offs and don't regard it as part of the flight. Well I have seen as many injuries from launch problems as accidents during flight, yet the crazy thing is that practising launch technique is easy as well as enjoyable, so why don't people do it? I strongly recommend that all pilots not familiar with this technique, make the effort to go to a flat field or training slope with their glider and learn this technique. One day it could save you from serious injury.

EXAMINATION AND INSPECTION PANEL

TRAINEE INSTRUCTOR RESPONSIBILITIES

Trainee Instructors are reminded that is an essential part of their training to read, and become familiar with, the relevant parts of the Technical Manual (TM).

Licensed Instructors (and therefore trainees under examination) are required, among other things, to; Operate safely in accordance with the TM; Ensure safety standards are maintained (as outlined in the TM); Improve their own flying

and instructional skills and knowledge in various ways, including studying the TM.

For obvious safety reasons being familiar with the relevant sections of the TM is extremely important, especially the training exercises, safety requirements and recommended practices etc.

Candidates on examination will be questioned on areas of the Technical Manual and will fail if unable to convince the Examiner that they have the required level of knowledge.

TOWING PANEL

TOW LINE EMERGENCY RELEASE PROCEDURE

Having pulled the quick release after a towed launch it is important to check that the line has fallen away before continuing the flight. If the line has not fallen away the following emergency procedure must be carried out:-

INSTRUCTOR AND COACH TRAINING PANEL**SENIOR INSTRUCTOR COURSES**

The Panel would like to remind potential Senior Instructors that SI courses are run on demand. As there has been no requests for an SI course, there are none currently scheduled. It is not too late for an SI course to be arranged for late Spring early Summer should there be a demand. Contact Tom Beardsley ASAP .

COURSES - AUTUMN 1998

Please note the date of the following scheduled courses:

Senior Instructor -	1/2	October
Trainee Instructor -	21/23	October
	2/4	December
Coach -	10/11	October
	14/15	December

1st AID CERTIFICATES

(see Technical Manual amendment 04 / April 98 for full details)

The current list of 1st Aid certificates accepted by the BHPA is as follows:

Elementary 1st Aid (minimum for Operators)

HSE First Response (minimum for Air Experience Instructors)

The two courses mentioned above are not acceptable for Licensed Instructors

Public 1st Aid

St John's Ambulance Lifesaver Plus

Health and Safety Executive 1st Aid Provider

Military First Aid Course (military personnel only)

Bangor Scheme of Mountain 1st Aid

Revised Alpine 1st Aid Scheme for Fell/Mountain Walkers

British Association of Ski Patrollers Standard 1st Aid

People considering a 1st aid course that does not feature on the approved list are strongly advised to first contact the BHPA with details of the course syllabus. Failure to do so may result in disappointment and a waste of time and money!

TEACHING PARAGLIDING

This article is extracted from "An instructors handbook" which is still in work by Ian Curren: It is aimed at instructors, trainee instructors and coaches who are already competent pilots and who are familiar with the tasks required for the BHPA club pilot certificate.

A few basic questions:

Who are we teaching? : A year or two ago I watched a programme on the BBC entitled "fighter pilot" or some thing of that sort. A large bunch of potential RAF flight crew were put through ever tougher tests and if one showed a weakness they were "chopped". In the end only a handful of the very best were left. The instructors could be heard saying things like "I don't think Jack has really got it, his landings are still wobbly. He is out.

Can you imagine the luxury of this!! An endless source of customers and you simply drop those without inherent natural ability! Easy life! Paragliding instructors are often expected to teach people with almost no natural ability. They are often frightened or overconfident, are flying with no more control than a radio or a signal bat, in conditions that could easily change during the course of the flight on a wing that can collapse. Thank God that a Paraglider is easier to master than a Tornado.

In fact of course we are closer to the Jet instructors than is immediately apparent. The majority of our clients are pretty capable. They know what they are getting into and think they can do it., mostly they are of course right. Imagine if we just had to train a random collection of people from the nearest bus.... Makes you shudder to think about it doesn't it.

So realistically we have to deal with cus-

tomers who may not be real naturals but who at least expect themselves to be able to fly and have the desire to throw themselves into space and into your tender care. Most will go through the training and either give up or turn into pilots. I will cover this decision process in a later chapter. In this section I would like to have a closer look at the few who do not fit into the normal categories.

1/ The overconfident punter. Often recognisable before they even arrive by asking questions on the phone like "how long will it take ME to learn. I've done parachuting and my brother's got a model glider" or worse still "A mate has given me a few pointers."

A response like "well I am sorry mate, but you obviously don't know anything and will start at the bottom like everyone else" will probably lose you this customer. I usually find saying something like:

"Well you will have no trouble then. I expect you will find it all a bit slow but we will push you along a bit more than the ORDINARY customers (if we can). This gets him on your side and keen and when he does get flying you treat him the same as everyone else. Often over confidence is not genuine but a defence mechanism for those who do not want to look stupid. The best thing to do is treat them professionally and they will often relax into good students.

If you do come across that rare animal the complete arsehole then there are a number of ways to handle it. Do not shout at them, or get involved in any dispute. Clearly explain your reasons for each task:

"We are practising landing accurately because one day you may need to land in a restricted field or area and this exercise helps perfect your flight planning skills... I want you to show me accurate 90 Degree turns etc. If they then do not follow the plan (by doing too much) tell them they may have to fly from lower down because they were not able to demonstrate sufficient control.. and they must master this before they are ready to anything else... the message soon goes home.

An instructor of my acquaintance once told a group to stop for lunch (it was a getting very breezy) Despite this one of his students who was a real pain then tried to launch, fell over

and was dragged towards the instructor who simply stepped aside to let the hapless character go body surfing past (much to his friends hilarity). This of course is utterly unprofessional and I could not possibly condone such a course of action.

Most people are more reasonable one to one. So any problems should be resolved by taking them away from the group before calmly explaining that they are a hazard to themselves. If they still look unconvinced I find dropping words like "paraplegic" into the conversation often helps.

If all else fails and you have a personality conflict and think you are going to get angry do what any parent would do... refer them to another instructor, this is particularly true for trainees. I have been asked to take a group causing a lot of headaches and they behaved very well for me. Possibly because the fact they had been switched told them something.

2/ The under confident pilot: Paragliding is a pretty crazy thing to do. It involves overcoming our quite natural impulses that we are safe on the ground. Nervousness is a good survival trait! However if it leads to poor concentration and fear it can be dangerous, so our first concern is to inspire confidence. Low flights, a calm approach and obvious care (waiting for the right conditions for example) are all useful. In more extreme cases a tandem flight may be the answer. Too many instructors progress an class at the rate of the fastest learner not the slowest.

However you must ask yourself "what would make this person happiest?" if the answer is overcoming their fear then great. if the answer is "being somewhere else" then keep them on the ground. Very often of course they will lie!! (especially men) you must decide which is really the case. How?

Rule one is (as always) get them away from their peer group - especially in the case of group bookings where the poor sap may have been dragged in against their will. Look them in the eyes and ask them why they are there. In the case of couples this can be quite tough. Send the dominant one off for a long flight then ask the partner (alone) whose idea it was to come paragliding. At the end of the day it is YOUR call not theirs. I have refused to teach a handful

of people over the years and I am sure it has prevented more than one serious accident. This is borne out by my having been persuaded by one guy that he was really OK after a poor "frozen" flight. I duly relaunched him after exhaustive briefing and repeating back his flight plan etc... he then froze again and piled into the hill down wind injuring his back... MY fault not his.

If you do decide someone is not fit to fly for any reason (except gross stupidity or alcohol) try to be diplomatic. Tell the others that he/she is not feeling well if you must say anything. Symptoms of fear you should be alert for are: Trembling, Excessive urination! Chewing lips, Constant rechecking of gear or instructions, Yawning, Not wanting to go first, Fumbling with buckles, Gulping air, Stuttering (stop-start) runs, Not responding to questions or nodding, and Screaming. (Dead giveaway that one)

What are we trying to achieve? Instructors often answer this one with something like "turn out good safe pilots" But whilst true that is not really the bottom line. We are not working for the RAF or even the BHPA but for commercial schools. Our aim is to send away happy & satisfied customers. (This may well mean good pilots of course) The best instructors are those that ask themselves is my group happy? Are they having a good time? These guys turn out happy and satisfied customers! This means being friendly, having a laugh with them making them feel you care about their welfare, It means remembering their names! & asking sure those there alone get to chat to the others, asking them what they do for a living. Think holiday rep!

I am sorry to say that some instructors -especially those on a bit of an ego trip, like to talk

about their latest XC with another pilot who wanders across, and generally let the customer know that they would rather be flying themselves.

During an examination of an instructor I asked him to teach PLF's, he announced that he was going to mark everyone out of 10 and proceeded to give the first guy minus 2 but with a bonus mark for exceptional accuracy in finding the freshest sheep shit on the hill... All the students were laughing and pleased to be there..... I knew immediately that this guy was going to make a damn fine instructor.....(and I stole his best lines for myself too).

Why are we doing it at all.? Money is the main answer of course (except for coaches whom I salute!)

But those who do it for just money, or when they would rather be somewhere else are not likely to be giving their best. It is not possible to be a good instructor without enthusiasm, without trying to give the customers the best you can and by doing the minimum. It might work at McDonalds but when you are in the leisure& entertainment business (which we are) it is not enough. When I do not get kick out of the ear-to ear grins after the first decent flights I will start doing something else. On the subject of money the customers are paying a hefty price for your services. Teaching is a profession and 5 students paying say £60 per day each means they get maybe an hour and a bit of your exclusive attention for that £60 ... that's about the same rate as a private medical consultant.

Just think how you feel if a doctor fails to explain what they are doing properly or talks to his colleagues about you as if you are not there.... (In my book they also deserve modern teaching equipment and a proper classroom for that money too)

BIG EARS AND TANDEM PARAGLIDERS

It is becoming apparent that a potential problem may exist when using 'big ears' on dual paragliders. When pumping out 'big ears' it is possible to enter a deep stall or other uncontrolled situation; this is especially likely if the wing is lightly loaded and if both ears are pumped out simultaneously. The consequences of this happening close to the ground could be catastrophic. Techniques to avoid this situation, put forward by the FSC's test pilot advisors, include letting the 'big ears' pop out naturally or, if they must be pumped out, pumping them out one side at a time.

ACCELERATED TRAINING

At the most recent Training Conference and ensuing FSC meeting the issue of 'accelerated training' was raised and in particular the practice of progressing students to 'high' launches straight from the nursery slopes.

The strong and unanimous feeling at both the Conference and the FSC meeting was that this practice should be condemned. The FSC is convinced that 'putting too much space under a student's feet too soon' was bad practice and did not meet the requirement of progressive training, a view that is unfortunately backed up by recent statistics. The overlying principle of advancing a student through the learning process by means of small, sequential steps and avoiding overload by too large a jump is fundamental - not just our sport but in all forms of education. This approach is stressed through the Technical Manual and has been emphasised on every Club Coach, TI and SI course.

The FSC does not wish to restrict the judgment of Senior Instructors, nor does it wish to lay down precise terms (students must launch from 50ft, then 100ft, then 200ft ...etc.) but it does expect the principles to be observed in order that "the risk to students is minimised". To that end you should ensure that your students are trained in accordance with the progressive training principle or risk placing your insurance cover in jeopardy!

RISK ASSESSMENT

Recently several clubs have been required to lodge their Risk Assessment Policy Document with their local authorities; our advice is initially to point out that the BHPA Technical Manual is based on 30 years experience of risk minimalisation and should be the reference point, particularly Section 1 Chapter 4.

This, however, is only a starting point - we recommend that you produce a summary as follows - **and use it** :

Hang gliding and paragliding are potentially hazardous activities with a risk of personal injury to participants; the XXXXX Club will endeavour to minimise this risk by adhering to

the following principles :

All operations will be conducted in accordance with Technical Manual of the national governing body, the British Hang Gliding and Paragliding Association (you may need to add any other sponsoring body with Rules & Regs eg The Scout Association)

Risk of injury - all participants (those intending to fly and those assisting) will have the risk of personal injury brought to their attention and will then receive receive the relevant training. The competency of students and pilots to undertake the intended exercise or progress to the next exercise will be assessed; they will wear the personal safety equipment (helmets, suitable footwear and outer clothing) appropriate for the exercise.

Risk of misunderstanding - all participants (including BHPA licensed members) will be fully briefed on what is intended and required of them. Every effort will be made to ensure that students understand what they are to do. If duties or personnel are exchanged the Duty Instructor will ensure that an effective change-over briefing occurs.

A written 'Welcome' will be produced and read to all participants - explaining what they can expect; introducing the staff and supporters; detailing what each will do in case of emergency.

Risk of equipment failure - only equipment duly certified or recognised as suitable by the BHPA will be used and subjected to a Daily Inspection; preflight checks will be carried out on gliders. Manufacturer or BHPA recommendations on servicing or replacement will be complied with.

Details of unserviceable equipment will be recorded, the item declared unfit for use, and reported to the Chief Flying Instructor who will be responsible for ensuring that repairs are carried out before the equipment is used.

Where radio communications are used they will be continually checked and a fail-safe system agreed.

Particular and continual attention will be paid

to quick releases, tensiometers and tow lines where appropriate. Tow and retrieve units will be maintained in a fully serviceable condition.

Risk of environmental influences - regular assessments of flying conditions will be made by the Duty Instructor. The limitations imposed by student ability; site; weather, and staff will be discussed and agreed at the start of operations and as necessary during the day.

Accident reporting - accidents and incidents will be reported in accordance with standard BHPA procedures and recorded in a Club Accident Record Book.

SAFETY: AN ALTERNATE VIEW?

(adapted from an article by BOB WEIEN, Soaring Society of America).

We still have a problem with accidents, I think we'll all agree. And we may be contributing to the problem by a single-minded insistence that better training is the only solution to the problem.

"Wait a minute." most of you are saying. "What kind of heresy is this? The pilot is the one responsible for accidents, so better training will be bound to prevent accidents by getting to the source of the problem... right? And all these wimps that want backplates and better helmets should just realise that if they don't have the crash in the first place they don't need the protective equipment. So, just train them better!"

As you may have guessed, I don't completely agree with this philosophy, and will try to show you why in the rest of this article. But before I go any further, I want to make one thing very clear. I am in favour of improved training, and our efforts in this area must continue. But we must not put all our safety eggs into any one basket. Whether it be labelled "training" or "backplates".

What is it we are really trying to do with our safety and training programs? If I were to ask a 100 pilots that question, I'd be willing to bet that at least 90 would say "prevent accidents".

Unfortunately, I do not believe that all accidents are preventable. People are just too dif-

ferent from each other and too difficult to communicate with to make sure everybody gets the message about how to prevent accidents. Even if you could get the message to everyone, there are even some people who will try something simply because they've been told not to. We all know people like that, don't we.

I will propose that what we are really trying to do is prevent injuries (which of course includes fatalities). "Good judgment is based upon experience, and experience is the result of bad judgments." Our goal must be to protect people while they're gathering that experience.

Public health professionals who work in the safety field now use the term "injury control" to describe what they do, instead of the previously popular "accident prevention". This term more accurately describes the objectives that I believe are the true goals of our safety measures too.

Why do I say that more training is not the answer to the problem? Economists have a concept that they call The Law of Diminishing Marginal Returns. Simply put, it says that for each additional unit of any given input (read "training") the amount of output it generates (read "safety") gets smaller. In our case it means that the first hour of training is much more effective than the tenth which is much more effective than the thirtieth, and so on. At some point the return on the effort expended by and instructor or coach is effectively *zero*. If at this point the pilot remains one with poor judgment or is unsafe in any other way, further training is not going to help. If our goal is to protect them from injury, we must do so some other way.

In injury prevention terms we may be today in hang gliding and paragliding about where the road safety movement was about thirty years ago. During the 50's, virtually all car accidents were assumed to be "driver error". In fact, the California Highway Patrol accident reports of that era listed 18 possible causes for accidents, 16 of which were some variation on "driver error". And I am fond of repeating that the single most important cause of accidents is the pilot error of flying in unsuitable weather. So how did the improved road safety situation come about? Where did collapsible steering columns, crumple zones, side impact protection, compulsory seat belts, breakaway sign posts, guard rails that work properly, and airbag technology come

from?

During the 50's and 60's many people began to look at the problem and realised that a lot of people were being injured on the highways in spite of excellent training programs. They realised that no matter how well you train people, somebody will eventually do something stupid and get into an accident. If you don't do something to protect them when that has happened, then you're saying that if they're dumb enough to get into an accident, they deserve what they get.

Consequently, many of these people began to develop ways to limit the number of injuries resulting from vehicle accidents, other than by attempting to alter driver behaviour. One of the tools they have found useful to organise their thinking about possible ways to intervene is to take a single crash and divide it into pre-crash, crash and post-crash phases. The questions asked then revolve around what can be done during each of those phases to reduce the injuries resulting from the crash.

They borrowed a concept from public Health: an epidemic of an infectious disease is often studied from the standpoint of the Agent (the bug), the Host (the Human with the disease) and the Environment (which often helps to transmit the disease). Aircraft accidents and the injuries associated with them can be considered a type of disease, and therefore can be approached in a similar manner. In this case the three factors are called the Human (the person, or persons, on board the glider), the Vehicle (the glider itself) and the Environment (everything external to the other two).

Combining these two approaches results in "Haddon's Matrix", named for the American road injury specialist who devised the concept. On the vertical axis are pre-crash, crash and post-crash phases. On the horizontal axis are Human, Vehicle and Environmental factors (see Figure). This produces a matrix with cells numbered from one to nine. Each cell representing a possible opportunity to reduce the injuries resulting from an accident.

Haddon's Matrix

	HUMAN	VEHICLE	ENVIRONMENT
PRE-CRASH	1	4	7
CRASH	2	5	8
POST-CRASH	3	6	9

Filling in the cells is an excellent exercise for a club to perform at a meeting, or for instructors to do with their students. Doing so will start people thinking about what can be done, and will allow the particular features of one's own flying environment to be considered.

I'll give examples for each cell. These are not to be considered complete in any way, and you should all try to add to them.

Most people's old favourite, improved training, would belong in Cell 1. This is because the goal of improved training is to alter human behaviour (the pilot's) in the pre-crash phase. Note that this leaves eight more areas in which injuries or their severity might be reduced, which is why I say we need to think about other ways of approaching safety.

An example of something else that might be done in Cell 1 would be to ensure that we don't go flying unless we are physically prepared for it: no drinking, and no flying while sick.

Cell 2 opens up possibilities for interventions relating to the human tolerance of crash forces.

How might we intervene? Discourage unpadded harnesses? Require flack jacket material in the torso area? Require backplates? (but ones we know don't make injuries worse!). We already do require helmets, and the statistics clearly show that they are a very effective protection.

In Cell 3 the Crash is over, so this one is concerned with how to reduce the degree of damage done by the injuries already sustained. First Aid training would be useful so a pilot could attempt to slow or stop his own bleeding, or know what to do if he suspects that his neck has been injured. Carrying survival gear in your harness is another example of a way to potentially reduce the effects of injuries in the post-crash phase.

Cell 4 concerns itself with insuring that the glider is ready to fly. The preflight inspection is crucial to this, so make sure it is not interrupted. An annual strip-down inspection is also a possible consideration here.

In Cell 5 would go all those things about the glider or harness which could cause or worsen injuries during the crash phase. Poorly placed instruments or ballast could be a problem, as could hang glider uprights that do not break. Interventions could include rounded padded instruments, airbags and energy absorbing keel extensions at the nose of the glider.

Cell 6 relates to those aircraft factors which could make injuries worse after the dust settles. The ability to get out of the harness is important here. For a hang glider harness, is it easy to release oneself? In the case of a paraglider, are there lots of places for lines to get snagged.

Cell 7 concerns how the environment could be improved during the pre-crash phase. Site maintenance can be important here. Did that last big thunderstorm leave an erosion ditch on the grass runway used for towing? Don't tell the tug pilot or driver he should "try to mists? Perhaps the landowner would be willing to allow the trimming back of trees or the moving of wires or fences and help make the approaches and take offs safer.

Cell 8 refers to those aspects of the environment which endanger the pilot during the crash phase itself. If obstacles are not essential such as an old fence, signs, trees or rocks, why not see if they can be removed? Cars can be parked away from landing areas, and old pieces of farm machinery perhaps disposed of.

Cell 9 is about how the environment responds during the post-crash phase. How prompt is the emergency medical response system? Where is the nearest phone? How do you precisely

define for the emergency services where the injured pilot is? Do you know the right kind of phrases to use to get a helicopter if that is required? How do you get everyone else in the air down, before the helicopter arrives? Does everyone in the Club have first aid training? Even they do, are adequate first aid supplies available?

As I said before, I did not attempt to make this chart complete: that would be a good exercise for individual pilots, safety officers, CFI's, students and instructors, club safety meetings, competition pilot meetings, and anywhere else people gather to discuss flying and how to improve our safety efforts.

SETTING THE STANDARDS

There have been a number of incidents recently involving injury to inexperienced pilots and students due to them copying the flying habits of more experienced pilots. Instructors, coaches and others in positions of responsibility are reminded that they, above all others, are responsible for setting the standards at our flying sites.

Good airmanship is a trait not necessarily inherent and is best developed early on by education and example. The responsibility for this education and example setting lies with us all but with instructors and coaches especially. It is only natural for students and inexperienced pilots to copy the techniques they see being employed by pilots they look up to and it is equally easy to see how this could lead to disaster.

Without wishing to give specific examples, if you do not wish a student to try something, do not demonstrate it in your own flying if it may be overseen.

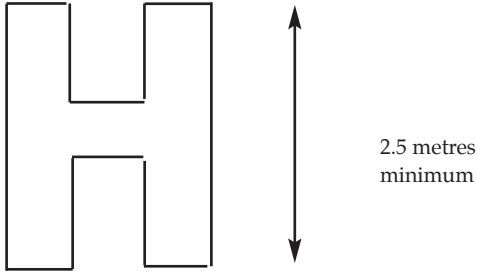
Good Airmanship is about Safety and using Common Sense. Please use it!

GROUND TO AIR EMERGENCY SIGNAL ? CLEAR THE

Following a number of incidents where rescue helicopters have had some difficulty in landing near to flying sites because of pilots continuing to fly, the FSC has carried out a review of the signals available to indicate to pilots that they should land.

A number of signals are already in use (particularly in competitions) in addition to the internationally recognised aviation symbols "X" and "V" meaning "medical assistance required" and "assistance required" respectively, however no existing signal has exactly the meaning required.

The FSC have adopted the following "ground to air" signal to be used in emergency situations where clearing the airspace is essential due to the possible arrival of a helicopter:



The meaning for the symbol is "Clear the Air, Helicopter will be Approaching"

The "H" should be at least 2.5 metres long and made as conspicuous as possible by attempting to provide the maximum colour contrast between the "H" and the background on which it is displayed. This could be done by using two rolled-up paragliders laid parallel to each other with glider bags forming the join, or by laying a de-rigged hang glider parallel to its outer bag, with a harness forming the join.

Care should be taken to secure the "H" in such a way that it will maintain its shape, eg. by placing rocks on glider tips etc. It is particularly important that the "H" cannot become an additional risk due to the downwash if the helicopter is landing close by, and it should be guarded, or removed, if this looks likely.

The "H" symbol IS NOT intended to supersede the international "X" and "V" symbols, nor the convention in hang gliding and paragliding that a spread out glider is used to indicate "assistance required". It is expected that the main (although not exclusive) area of use for the "H" will be at launch or landing areas or ridge soaring sites where a laid out glider is a common sight and has no particular meaning.

Pilots are strongly advised to be aware of all the symbols and take the appropriate action.

AIRWORTHINESS PANEL

BANNED TOW RELEASES

Pilots are reminded that banned tow release systems are banned for all forms of towing and not just parasending.

Pilots using release systems not currently on the list of tested releases should put them forward for testing as soon as possible. Contact BHPA office for details.

EMERGENCY PARACHUTE SYSTEMS AND PACKERS

The following is the current list of BHPA Licensed checkers/packers

David Sagan	David Sollom
David Perrin	Colin Lark
Michel Carnet	Andrew Cowley
Ian Stewart	Dave Fenwick
Roger de Coverley	Andrew Shaw
Mike Millwood	Robert Arnold
Chris Dawes	Dave Elliot
Patrick Holmes	Jonathan Keller
Patrick McVey	Stephen Millson
Mike Townsend	

AEROTOW DUAL LOCKOUT by Mark Dale

About a year ago I had been asked to comment on an American tandem aerotow accident where both pilots on the tandem had been killed. The glider had started to veer off to one side the moment it left the ground, and this had developed into a full lockout. The hang glider pilots had not released the line, and nor had the tug, despite the tug pilot operating the release three times. The pilot in command on the tandem was a very experienced tandem instructor, and the second pilot was an experienced hang glider pilot being taught tandem aerotowing. Despite all this experience, about thirty seconds after calling 'All Out' both pilots were dead. In my comments I made the point that the American investigation seemed to be focussed on the issue of 'Why did the hang glider get out of position?' To my mind this was the wrong issue: getting out of position on aerotow is something that will happen, from time to time, when you least expect it, especially when there is a training factor. I suggested they explored

the question of why did a known risk/danger turn from a minor problem (the hang glider starting to turn) into a disaster - basically what happened to the safety mechanisms that should have saved the situation. I was principally concerned by the apparent lack of attention the Americans were paying to the release on the tug: it seemed to be quite normal in their eyes that a release should fail to operate three times in succession! But I was also a little surprised that the hang glider pilots had not been able to release.

A few months after this event I learnt a bit more about dual aerotow lockouts. We were having a fairly active aerotow day, and I had taken up two or three 'punters' on air experience flights in the smooth overcast conditions, and all had enjoyed piloting the Fly 2 on the way back down. One young man, who had done several days of a hang gliding hill course, asked for a second flight so we got ourselves sorted and off we went. At about a thousand

feet on the tow I started him 'following through' on the controls, and at about fifteen hundred feet I suggested he tried flying it while I 'followed through'. This was going fine until I decided that we'd be comfier if I shifted my left hand from the base bar in between his hands to the left upright above his shoulders (ie the 'standard' tandem instructor position). In order to make sure that I did not inadvertently pull on the release cord whilst doing this repositioning I released the extension loop that I had in my right hand, knowing that I would be able to use the main release cord on the rear of the right upright. During this repositioning (which took perhaps two seconds) my 'student' allowed the glider to climb a little, and drift a little bit to the right. I suggested he pull in a bit and move left. His efforts were not immediately successful and we had climbed a tiny bit more and drifted a little bit further to the right. I decided to that it would be much better if we were back right in the centre of the towing 'cone' so as well as instructing him to pull in and left I gave him a very positive helping hand. And nothing happened! The glider was still up and to the right, and was starting to get noticeably out of position. We both had our weight pulled on in the left corner of the bar, and the situation was still getting worse. Releasing now seemed like a really good option. But the release was on the right upright, which meant that I would have to take the control effort away from the corrective input to the left whilst I grabbed the release to operate it, which I knew would mean the glider would rear up and right. It took a nano second of thought to realise that the pain would be worth the gain - and I missed the release cord on my first grab with gloved hand. A split second later I hit it with my second go, but saw that Richard in the tug had also hit his release at this point. Control of the glider was regained instantly the tow force came off and we completed the second half of a wing-over back to normal flight. Luckily, as the detensioned line slowly unravelled through the threaders, I had time to grab it, so we were then able (with about two thousand feet) to fly back to the airfield where we dropped the line. The student enjoyed his fly

around on the way down, and went away happy. Meanwhile the tug pilots and dual pilots on the field had a quiet debrief.

What had we learnt? (It should be borne in mind that the following points relate to towing dual gliders with the XL, so at 34 - 38 mph.)

1. The difference between being a little out of position and being locked out is very small on a tandem glider.

2. Tug pilots should be specifically briefed if the tandem pilot is thinking of letting the student do any part of the tow. In this incident the tug pilot was correctly paying close attention to the glider behind him, which meant that he was able to release when he felt enough was enough. It is sometimes the case that tug pilots towing experienced pilots pay less attention to the glider end. In our incident release occurred at just the right time: I would not have wanted to be attached for any longer!

3. On tow the Pilot in Command must have his hand actually on the release at all times. 'Near' the release is not close enough! At two thousand feet a fumbled release produced a minor drama. At twenty feet it could have produced a tragedy. (In our tugs, in sailplanes, and for normal solo towing using a release that requires a two stage operation - move your hand from the controls to find it, then operate it - is the norm. For dual aerotowing the release must be single stage - i.e. just operate it. This is something the dual winch tow pilots have known for years, but I hadn't previously recognised its true significance.)

4. If the student is flying the glider on tow and gets the least bit out of position release immediately! You will not fight it back into position, and the situation will go from inconvenient to dangerous in the twinkling of an eye. This is especially important when near the ground, the dangers diminishing as height is gained. Only Instructors teaching aerotowing ab-initio (under trial dispensation conditions) and Aerotow Coach qualified dual

pilots training other dual pilots should be letting students handle the controls near the ground in any case. If pushed I would probably define 'near the ground' as being below 500 feet - although a very current Dual Aerotow Instructor operating over easy terrain in good conditions (etc.) would probably be happy at half this height.

5. Unless the student is actually learning to aerotow (eg on an endorsement course, or in the

future, being trained from scratch) the benefits of letting them have a go during the tow are few, and probably not worth the candle. Even with endorsement courses the main benefit of a dual flight is to show them the positioning: a quick 'shot' on the controls is unlikely to massively increase their preparedness. This is especially true if you consider that the pitch forces, glider response rate and release system are all totally different to those they will experience when they tow their own glider.

HANG GLIDER TOW TO HILL CONVERSION by Tony

Pam Sykes and I were talking the other day about the subject of converting tow pilots to hill flying. I asked what was involved in such a conversion by way of comparing notes. We have taken a lot of our pilots abroad to fly the Alps, the Pyrenees, Lanzarote and to UK flying sites. It was interesting to hear that our approach was very similar with the biggest difference being that more time had to be spent at the beginning in order to get know a new student. When we have gone soaring it is the general case that we are familiar with how our student flies and behaves.

Pam and I agreed that the course be two days in length with the first being taken up with low take off say no higher than 25 feet. The student should see a couple of demo launches followed by a good briefing about commitment and driving power. (the tow pilot has never had to drag the aircraft up to flying speed with the legs, it has always been done by the cable). The measure of success is the student taking off and landing with out dropping a wing on take off or landing. We get our students to practice this on the flat field with a gentle wind but maybe we need to build a small hill to make it more realistic.

Day two should be at a large coastal site if possible in order to gently

introduce the pilot to soaring. The tow pilot is very capable of flying the aircraft and controlling where the hang glider is supposed to be as long as it has been clearly described. My feelings are that the student be allowed to soar for

up to one hour on the first opportunity to really get to grips with flying next to a great lump of earth called the hill. This reward will toughen the resolve to understand everything about hill flying and to be able to do more. Pam's feeling were that to do some top to bottoms would be more appropriate at this stage which may be the case and is certainly a necessary exercise to do in order to learn about those difficult inland bottom landing paddocks. I feel there has to be a compromise between keeping the course fun, safe and progressive.

Bad weather is always the bug bear in any training program. The low hops are easier to achieve than the soaring flights and thankfully I believe, do not have to be consecutive. If inland sites have to be used then the bottom landing field must be generous. To get good results we are prepared to drive to the other side of the country from Norfolk to achieve students first soaring flights. Once the student has soared then great advances can be made towards inland flying with out fear of accidents.

Pam asked what kinds of special briefs are used for tow pilots prior to

soaring which is interesting. One has to imagine what concepts do not exist with a tow pilot, firstly a tow pilot has little or no experience of strong wind (15MPH+) Therefore taking off in 18mph is going to feel strange. The action of tracking rather than turning to achieve movement up and down the ridge. The term ridge and beat mean nothing. As for compression

well what's that ? and try and explain it away with Benoullis theory or the venturi effect and you'll lose altogether. The concept of tracking left and right in front of the take off being far enough away from the ridge in order not to hit it and near enough to get the full benefit of lift is worth while explaining. A description of what the ridge should look like when in the correct position for the best lift will help. A dual flight in ridge lift would be the ultimate method of explanation. Dispel worries about losing lift and going down as though who cares just get back up to the top try again. Tell them the best of us loose it from time to time and especially in the beginning. The tow pilot has no idea that sustained flight exists without

the presence of an engine or big puffy clouds. Bottom landings are the worst nightmare for a tow pilot the wind down there will be almost nil compared to the gale blowing up here and the direction will bear no resemblance to what they think it might be. The value in take off safety for the wind to be truly blowing up the slope and not from 10% from the left or right. Finally to comprehend that the gentle slope with a light wind puffing warmth on their faces just might be more difficult to launch in than this cold howling gale.

Comments addressed to Tony Webb 01362 687000.

Pilots both HG and PG are reminded that converting from Tow to Hill requires a con-

AIRSPACE PANEL

NEW EDITIONS OF CHARTS

New editions of the following charts are now available or are due to be available soon, as indicated below.

(All of these charts are now produced using the WGS84 Datum.)

ICAO 1:500 000 Chart Series

Southern England and Wales	Edition 24	Now Available
Northern England and Northern Ireland	Edition 21	Now Available

Topographical Air Charts of the UK 1:250 000

This series of charts used to number 18.

As a result of a change in format, there are now only 8 required to cover the UK.

England South	Edition 2	Available Now
Central England and Wales	Edition 2	Available End of April
West and South Wales	Edition 1	Available Now
England East	Edition 1	Available Now

Sheets 7, 9, 11, 13 and 14 of the old series of 1:250 000 charts are now obsolete.

Charts are available from Westward Digital Ltd on 01242 235151, and from all of the usual stockists and flying clubs etc.

Info on the WEB

The Aeronautical Information Service (AIS) based at Heathrow Airport who are responsible for the issuing of Nav Warnings, NOTAMs, Royal Flight details etc. now have a web site. This can be found at <http://www.ais.org.uk> and is updated on a daily basis to ensure current information is available. The details about this site can be found in Aeronautical Information Circular (AIC) 8/98. This can be viewed through the site which also has listed all other current AIC's and supplements to the UK AIP (Air Pilot). This new web site is primarily aimed at the general aviation community and comments regarding it's content etc. can be e-mailed direct to AIS via the site.