

2003 Incident Analysis Report

At long last we have had a bit of a summer! Word on the street is that the majority of areas have had their best flying summer in quite some time. Lots of pilots flying lots of miles gaining lots of airtime, and lots of students being trained by the schools. Given the above you might suspect that there would have been a corresponding increase in the rate of accidents – even if only considering the probable increased level of pilot activity in 2003.

The bad news is you'd have been correct – there has indeed been an increase on the 2002 figures. The good news is that the increase is very small (and probably represents a proportional decrease) 176 reported incidents in 2003 compared to 172 in 2002.

Before going further it's worth clarifying that the database is used to record all the IR forms we receive. Not all of the 176 reports entered on the database are reports of accidents (ie events where injury has occurred.) A good number of reports highlight equipment failure, faulty equipment, damage to 3rd party property, air misses or other occurrences *'that could, in less favourable circumstances, have resulted in an accident.'* Of the 176 reports, 125 (71%) highlighted incidents that involved injury to some degree.

The database has undergone a major upgrade recently which will mean that parascending and power will be included next year to give a more whole picture.

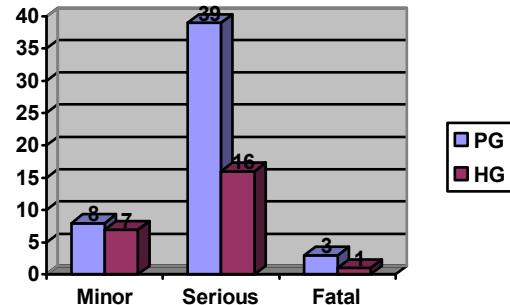
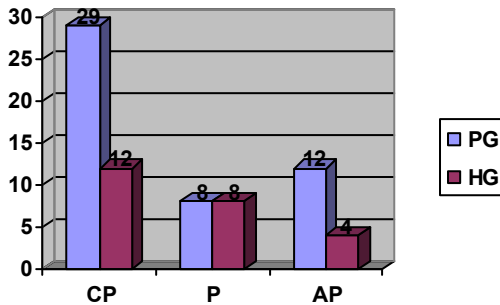
The report has been split into CP+ and training incidents to make it easier to digest.

2003 STATISTICS CP+

Total reported incidents (inc training) 176
Involving injury (inc training) 125

CP+ injuries 76

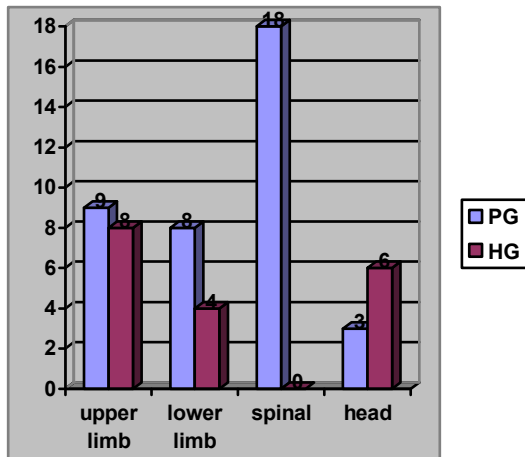
Severity of Injuries



It is important to note that the descriptions 'Minor, Serious and Fatal' are recognised EU terms for the purpose of accident investigation. Not all 'Serious' incidents are actually that serious e.g. a broken limb (inc. wrists and ankles but not fingers or toes) is classed as serious. Clearly there is quite a range within the term when comparing a fractured wrist to a badly crushed vertebra.

Breakdown of 'Serious' Incidents

CP+



Of the 39 serious PG incidents upper limb injuries account for 23%; lower limb 20% and spinal 46%.

Of the 16 serious HG incidents head injuries account for 37%; lower limb 25% and upper limb 50%. (figures do not add to 100% as individual can have more than 1 injury per incident).

Due to the nature of the craft, paragliders' have a tendency towards spinal injury and hang gliders head and upper limb injury. Looking at the causal factors below these incidents are almost all as a result of poor glider control having first decided to fly in unsuitable weather and/or in an unsuitable environment.

Causal Factors

As you may be aware, the BHPA is working closely with other European nations to develop a harmonised accident/incident database format, enabling us to share information. The European database format has 20 fields for causal factors. The following table uses the European database fields that focus on human and environmental factors, and shows this year's BHPA incidents and accidents involving rated pilots. (When looking at these numbers you should bear in mind that some accidents are attributed more than one causal category.)

It is also worth bearing in mind that in reality virtually all accidents can be attributed in some way to 'pilot error', but this is not very helpful when trying to analyse precisely where or why people are going wrong.

Human Factors	CP	P	AP
Pre-flight Check (omission)	1	1	0
Controlling Glider (error)	15	7	5
Judgement Position (error)	13	9	1
Awareness (lack of situational awareness)	15	9	3
Environmental Factors	CP	P	AP
Unsuitable Site	1	1	0
Judgement Weather (error)	8	2	2
Judgement Orography (misjudging airflow around terrain)	6	2	1
Judgment Wind Gradient (error)	0	0	0

There were 11 incident reports involving equipment. The majority of these incidents would have been prevented had the pilot concerned carried out a thorough daily inspection and/or a good pre-flight check. Remember that it is your duty (under UK Air Law) to ensure that your aircraft is fit to fly and the only way to do that is to carry out all the required checks in a thorough and logical way.

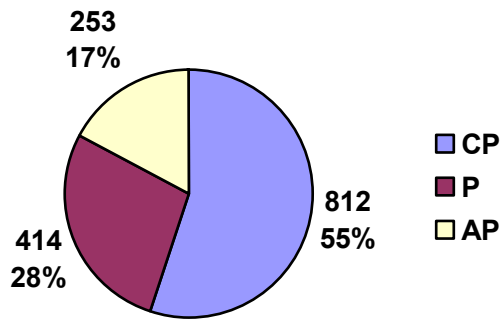
Ratings

I've included two pie charts to enable a quick visualisation of membership breakdown per rating. The greatest proportion of accidents occurring in both disciplines is to CP rated pilots, which is to be expected as they constitute the largest portion of the membership. However, the division of incidents does not exactly mirror the division of member's ratings. In both disciplines the portion of accidents occurring to 'Club Pilot' rated pilots is lower than the proportion of the membership with that rating.

In hang gliding the proportion of accidents to 'Pilot' rated pilots is higher than the proportion of the membership with that rating. For 'Advanced Pilots' the ratio is equal.

In paragliding the proportion of accidents to 'Pilot' rated pilots is less than the proportion of the membership with that rating. For 'Advanced Pilots' the proportion of accidents is higher than the proportion of members with that rating.

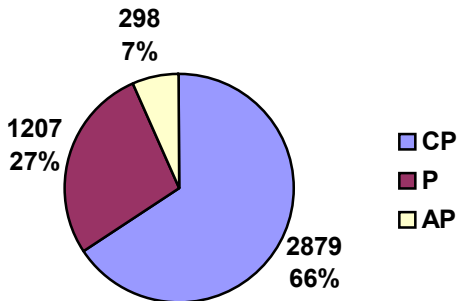
Total HG Ratings



HG	% membership	% accidents
CP	55%	48%
P	28%	35%
AP	17%	17%

Of the 812 ‘CP’ rated hang glider pilots 11 (1.4%) were involved in incidents that resulted in injury. 8 (2%) ‘P’ rated hang glider pilots were injured, as were 4 (1.6%) ‘AP’ rated pilot.

Total PG Ratings



PG	% membership	% accidents
CP	66%	60%
P	27%	15%
AP	7%	25%

Of the 2879 ‘CP’ rated paraglider pilots 28 (1%) were involved in accidents that resulted in injury. 7 (0.6%) ‘P’ rated paraglider pilots were injured. 12 (4%) ‘AP’ rated pilots sustained injury.

Fatalities

In 2003 there were again 5 fatalities, one of which was a pilot under training – 3 paragliding and 2 hang gliding with 2 of the 5 occurring outside the UK. There do not appear to be any specific trends although the foreign fatalities both involved relatively low airtime pilots flying in unsuitable conditions with one of the pilots also on an unsuitable glider. 4 of the 5 pilots were CP rated and the 5th AP.

Incidents Abroad

Last year it was predicted that the number of incidents occurring abroad would increase. This has indeed been the case with a dramatic rise of 100% from 13 in 2002 to 26 in 2003. There were 15 paragliding incidents and 11 hang gliding. The majority of these (8 pg and 7 hg) occurred in France; with 4 in Spain; 2 in both Italy and the USA and 1 each in Kenya, Turkey and Morocco. There are no accurate (or otherwise) figures on the number of BHPA pilots flying abroad.

Mid Air Collisions

The number of 'mid airs' was down slightly on last year from 6 in 2002 to 5 in 2003. There were 4 pg-pg collisions and 1 pg-hg. 1 of the pilots sustained severe spinal injuries – the rest should consider themselves extremely lucky! On the positive side there were no (reported) mid airs involving model aircraft. It is essential that you are realistic about avoiding collisions. They are often fatal and are always avoidable. The best pilots fly in such a way that they rarely (if ever) have to resort to collision avoidance manoeuvres. Once you get that far (even if you avoid the collision) you have screwed up and next time may not be so lucky.

Emergency Parachute Deployments

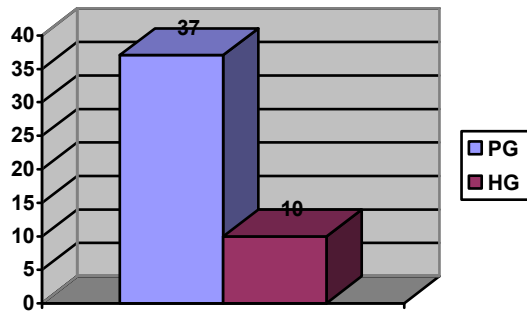
Of the 3 unintentional deployments 1 involved severe injury to the pilot. We suspect that a lot of emergency chute deployments go unreported. We most definitely would like to hear about them as at the moment it appears that flying with an emergency parachute is as dangerous as flying without one! There were 7 (2 more than last year) reported emergency parachute deployments this year, of these 3 were unintentional. Of the 4 intentional deployments there were 2 hg and 2 pg, 1 of which involved serious injury to the pilot who was unlucky to descend into rocky terrain. 2 of the deployments occurred in the UK with 1 each for France and Spain.

Incidents/accidents occurring in schools

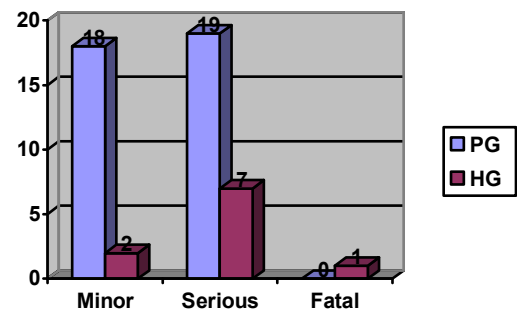
There were 54 reported occurrences in schools, with 49 students sustaining injury. During the year 4084 Introductory Memberships, 555 Training Memberships, and 1,106 first-time Full Annual memberships were processed. A further 100 - 200 students will have trained under 'Block Insurance' and similar protocols, along with a few hundred Scouts. So in total, over 6000 students will have received some training. The following table gives a breakdown of these occurrences. Please note that the overall totals above include all BHPA disciplines whereas the table only covers PG and HG – hence the discrepancy in the figures.

	PG	HG
Number of occurrences	37	10
Injuries to students		
Serious	19	7
Minor	18	2
Fatal	0	1

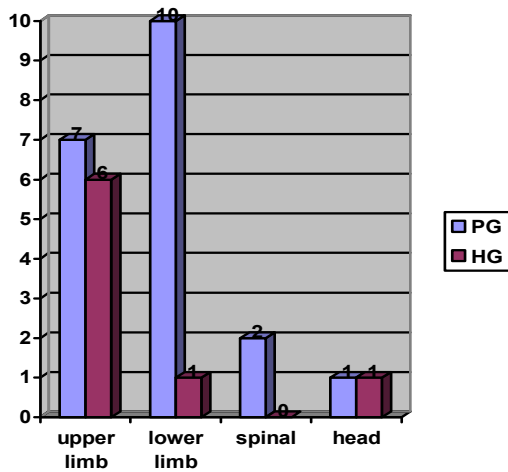
Injuries under training 49



Severity of Injuries



Breakdown of 'Serious' Incidents



Under training (PG) upper limb account for 37%; lower limb 53%, spinal 2% and head 5%.

For training HG lower limb account for 7%; head 7% and upper limb 86%.

The majority of the incidents stem from the student failing to properly control the glider and/or tripping and falling whilst ground handling or landing. There were no instances where the students were flying in unsuitable conditions which is as it should be given the student is under the control of an instructor.

When comparing the accident rates of the PG schools and HG schools there are some important factors that need to be considered.

1. There are 40 active paragliding schools and 10 hang gliding – approx 4 to 1.
2. There are approx 130 PG instructors and approx 25 HG – approx 5 to 1
3. There were 704 new PG CPs awarded and 87 HG CPs – approx 8 to 1

It is not possible to know the exact figures as there is no data on numbers of students under training at any given time. It is clear however that the paragliding schools are dealing with a far greater number of students than the hang gliding schools.

From the figures and in conjunction with the 3 points above it appears that the risk of injury during paragliding training is significantly less than during hang gliding training.

To finish

Finally I'd like to thank all pilots who submitted Incident Report forms. These forms are our only means of identifying incident trends, and so enabling us to keep the membership informed when hazardous equipment or procedures come to light. With this in mind I'd like to stress the importance of completing the form as fully as possible. Parts of the form may not appear particularly relevant to your particular incident: even so such information may be of vital importance when the accident panel attempt to produce meaningful accident statistics.

Remember: Accidents don't just happen: they are caused.
Fly Safely.