

Gliding Training in Britain

By Ann Welch

It is the continued entry of new and young participants which keeps any human activity alive and progressive. If the young and the impecunious are discouraged, the pursuit, whether it be sporting or academic, will decline and die with the passing of the years. Encouragement, however, is not merely a question of opening the door. It has to be positive, and offer outlet for experiment at a price which can be afforded. In Britain the gliding clubs have put their maximum effort into the training of new pilots at the lowest cost to the pupil, and as a result the sport is in a flourishing state.

Such a training program has not been without its problems, and is best looked at against the background of gliding as a whole, as this has some bearing on the way in which training is carried out.

Briefly, there are some 36 clubs which offer elementary tuition. These clubs do about 99,500 launches and 15,750 hours a year with 175 gliders. This gives an average utilisation of almost 600 launches per glider. Of these, the Lasham Center does about a quarter of the total. The 1957 Nationals held at this Center resulted in 27,132 cross country miles and 1,462 hours. Seventy two gliders were entered in a senior and junior class, and flown by over 100 pilots.

The clubs are randomly scattered over the country on both flat and hill sites, the gliders being launched mainly by winch, with a small amount of aero-towing or car launching.

The British Government gives no subsidy other than tax rebate on petrol used for launching and retrieving. The club member therefore has to pay enough to cover the full cost of flying operations. Costs are kept down by using amateurs wherever possible, and pupils have to become useful assistants without delay if the clubs are to work at all efficiently. Many clubs fly at week-ends and on occasional evenings only.

Charges to members are roughly as follows:

Entrance to the club	£2 to £4 (24-48 Sw. frs., \$5.60-11.20)
Annual subscription	£5 to £7 (60-83 Sw. frs., \$14.00-20.00)
Each winch launched	
flight	4/- (2.35 Sw. frs., \$0.55)
Soaring per hour	15/- to £1 (9-12 Sw. frs., \$2.10-2.80)
Liability for breakage up to	£10 (120 Sw. frs., \$28.00)

There is no extra charge for instruction.

Most clubs are inundated with pupils, and beginners courses for non-members are filled up almost as soon as they are announced.

The administration of gliding in Britain is carried out by the British Gliding Association Council, which is composed of representatives of the major clubs. This Council decides on standards, and these standards are maintained without compulsion by the club operators. Specialist members of the Council arrange for such tests or conferences as may be required. To a very large extent it is this form of administration which is responsible for the competent enthusiasm which is manifest. The sport is allowed to control itself

without government interference and remote and expensive legislation provided that it continues to do so satisfactorily.

There are no government pilots licenses, and medicals are not required. The standard of pilot competence is assessed by the International certificate system, and by the evidence of the local chief instructor's eyes. Instructors and engineers are approved by the BGA, and in each case the maximum responsibility is put on the man on the spot. There are no pieces of paper for tug pilots, winch drivers, or anybody else. Sites are not licensed, and gliders carry no national registration. The only limitations having the force of law are: (1) That glider pilots must obey the Air Navigation Regulations like any other air user. (2) That gliders must be insured against 3rd party risks up to £3000. (3) That pupils must not be allowed solo until they are 16. The first two requirements are entirely reasonable. The third is a matter, I feel, which could perfectly well be left to the local instructor, since in every other circumstance he has to take the decision of when a pupil is ready to go alone.

Non-British Nationals can fly at any club on payment of the ordinary membership fee and take their turn equally with everyone else.

There are two big advantages in having no government control.

(1) Decisions of policy and practice are in the hands of active pilots and people dealing with the problems first hand. There is therefore little or no delay in taking such action as may be required.

(2) The ordinary member is spared the time and expense which is required when legislation is in the hands of the state. Many people today whose working lives are increasingly bound up with large quantities of paper refuse to be similarly bound in their leisure time. The enfeebled state of private aeroplane flying in Britain is witness to this dislike, as well as the constant need to pay out sums of money that seems to be inherent in state legislation.

These two important factors, no subsidy, and no government control, naturally have an appreciable bearing on how training is undertaken, and its resulting efficiency.

The Instructor. As stated above the Chief Flying Instructor at a club is given the fullest responsibilities. Initially he is approved by the Instructors Panel of the BGA after a flying and ground test. Thereafter his approval is renewed automatically each year provided that, (1) He remains acceptable to his club committee as CFI of the Club, (2) He has exceeded a minimum amount of instructional flying, during the year and (3) His club has a good accident record. No other instructor in the club is required to be approved by the BGA although many instructors apply voluntarily for category tests. The Chief Instructor of the club is responsible for all the flying from his site, and for selecting and training his assistant instructors. It is also his responsibility to report accidents and incidents to the BGA so that a statistical survey can be made for the whole country, for the purpose of reducing and avoiding further mistakes. Most instructors are voluntary and have an extremely onerous job. In the very small clubs illness or marriage of the CFI may

put the club into serious difficulties if there is no one to replace him, and he can no longer continue to give up the large amount of time and energy needed.

The Pupil. A pupil joining a club soon discovers that he is not able just to buy glider time, but must take a considerable hand in club operations if he, or his fellows, are to get anywhere at all. Without subsidy, and without such voluntary help, the charges for flying would be more than the average person could reasonably afford. He also discovers that gliding is much more popular than he thought, and there are too many pupils clamouring for all the flights which can be given. This state of affairs is difficult to avoid, since to turn away pupils means that their subscription to the club is also lost. Some clubs try to overcome this problem by having a waiting list, but this is not a very happy answer.

It will be obvious to an experienced instructor that the combination of large numbers of pupils, and part time club operation with voluntary instructors will result in an excess of time and energy being spent on elementary instruction, with little time left for advanced training, and that there will be an appreciable wastage rate among pupils who give up because they cannot get on fast enough. Training on this basis is not very efficient. It is perfectly safe, but many flights are wasted since they do not produce a pilot. Turning out large numbers of pilots is not, of course, the sole aim of the gliding clubs. They are dealing with flying as a sport and to provide fun, but it would be better if the wasted flights could have been given to other keener pupils. Not much can be done about this rather fundamental problem without somehow getting more money into the clubs, because the trouble is primarily caused by the much higher cost of equipment and its maintenance than exists with most other sports.

At Lasham, it is possible to run on a largely professional and full time basis with adequate equipment, because the size of the organisation (700 members) enables it to be placed on a better economic footing. It is always a big step for a little part time club to become fulltime until it can be quite sure that it will be able to utilise its equipment, as well as its staff throughout the weekdays. Once on a full time basis with adequate equipment it is possible to go much farther with advanced instruction, but even here a great deal more can be done.

Elementary training in Britain follows a standard pattern as regards the overall syllabus, but there are, of course, minor variations between clubs according to the peculiarities of their site or the differences in their equipment. The following is a brief account of the training at Lasham. Any differences to the practices used by the majority of other clubs will be noted.

All training is carried out on T21b side-by-side open two-seaters under the Chief Flying Instructor Derek Piggott. The launches are mainly by car tow to 200 to 350 metres. There are two assistant professional instructors, and some 18 voluntary part time instructors.

After one or perhaps two air experience flights, in which the pupil is regarded as a complete passenger so that he will have a chance to look around, he starts straight away with serious training. This covers the usual schedule of turns, stalls, spins, straight flying, launch failure, approach planning, use of air brakes and landing.

Every effort is made to get the pupil to do the maximum amount of the flying himself from the start, and to this end turns follow immediately upon the demonstrations of primary effect of controls, which is usually completed in the first circuit, and before any attempt is made at straight flying. With prompting the pupil is able to get the glider the whole way round the circuit without the instruc-

tor having to take over for any of the "corners" straight-away, and by the fourth winch circuit the normal pupil should be making effective attempts to deal with the take-off and climb and the landing. Making the pupil tackle the problem of flying in this way helps to develop the sense of initiative and responsibility which he will need as a soaring pilot.

A great deal of time and effort is devoted to teaching the pupil how to turn really well; apart from the direct benefit to him in circling in thermals, turns are used to bring to the pupil's handling of the aircraft really accurate co-ordination. Turns are not taught as two separate exercises, "medium" and "steep": all varieties of turns come under the one heading, although for obvious reasons the pupil is initially taught fairly gentle ones until he has got the idea. By the time that he is solo the pupil should be able to have sufficient control over his turns so that he can enter a turn steeply and come out gently, and vice versa, and change an accurate turn into a slipping or skidding one at will and then revert to a correct one. His flying, in fact, should be sufficiently well co-ordinated to allow him to manoeuvre to the best advantage in lift without expending conscious effort on handling the aircraft.

The pre-solo dual is divided generally into two parts, handling and planning. It has been found that the pupil learns quicker and more thoroughly in the initial stages if he does not have to worry about where he is in the air, in order that he can concentrate entirely on learning to handle the glider. When he has reached the stage of understanding the problems of landing and can get the glider on to the ground moderately competently, the instructor starts him on approach planning, with which is combined use of the air brakes. (Note: brakes are used on all approaches, but up to this time by the instructor entirely.) If the pupil is allowed to concentrate on approach planning too soon he may start having trouble with his landings, and feel that he is getting worse instead of making progress.

Although training flights are made from winch or car launches, and in most cases are mere circuits of the aerodrome, the pupil is discouraged from thinking of them as circuits from the point of view of the approach and landing. He is taught to use every metre of height that he can afford for attempting to soar, or for practicing some exercise to improve his flying, and to end up in some suitable position for the approach at about 160 metres. This suitable position is accepted as crosswind from the final straight approach and landing run, the precise location depending of course on the wind strength.

Every advantage is taken by the instructor to teach the pupil to use thermal lift in the pre-solo stages, and the pupil would be expected to try to soar if he found suitable lift on the occasion of his first solo.

The average pupil is ready to go solo after 40-50 circuits, or rather less if he has had a good deal of soaring. It is accepted that pupils can be prepared for a solo at an appreciable lower figure than this (20-30), but although they may be perfectly safe flying under close supervision, their general air experience is insufficient to carry them on without considerable further dual, save in very exceptional cases. At the stage of the first solo the pupil should be capable of dealing with any of the eventualities which are possible on an ordinary local flight, such as failure of the launch, avoidance of collision, and selection of an alternative landing place should the normal landing area become suddenly congested. He should be able to use thermal lift safely and know when and how to return to the airfield. He should not be sent solo when he merely has enough skill to repeat a simple circuit, because if he is he will soon get himself into a position from which his experience is not enough

to extricate him, unless his subsequent flying is carefully planned and supervised.

At Lasham the pupil is sent solo on the two-seater in which he has done his dual training. Ballast replaces the instructor, who sends off the pupil without any complicated briefing. "Do as you have just done" should be adequate. In the majority of British clubs the pupil is transferred to a comparable single-seater for his first solo. The arguments for this are that (1) the two-seater should not be risked, and (2) that it is too busy giving dual. The writer feels strongly that this policy is wrong, and based on fallacious reasoning. It is true that the double jump of first solo and unfamiliar aircraft is not difficult for the majority of pupils, but there are others, either because they are nervous, or because they think in a particular way, who find the double jump too much. Either the instructor has to accept a risk in sending them off, or he must postpone or avoid the first solo. Neither of these are fair on the pupil who has paid out good money to be trained. Further, even if a first solo finishes up without apparent incident, a feeling of not being wholly in control of a totally strange aircraft at the impressive time of the first solo may well encourage fear and underconfidence that the pupil had hitherto managed to keep in check.

After the first few solos at Lasham, which are liberally interspersed with dual checks, the pupil is transferred for a few flights to a cabin T21b. After approximately twelve solo circuits he is put on the Olympia (Meise), on which he is expected to gain the bulk of his early flying experience. From time to time he will have further dual checks, do aerotows, and eventually be passed out for Skylark 11s and for field landings. Then, when the weather is suitable he will start flying cross country. To reach this stage takes a regular weekend pupil one to two years depending on the season in which he first started his training.

Alongside the T21b flying at Lasham, there is a small amount of training given on the tandem high performance Slingsby Eagle. At present this has no regular place in the programme, but in the near future it is intended to put a few pupils right through from the start on the higher performance glider mainly launched by aerotow. If it is successful, and the price can be kept reasonable, there will be a gradual change over to this form of training.

To sum up: The problems of glider training in Britain are the same all over the country, and are basically produced by lack of money.

(1) Most instructors are volunteers. However good they are, and some are very good, the fact that they can only turn up in their spare time means that in most clubs each pupil is likely to have a large number of different instructors. This carries the slight risk that he may eventually be sent off solo with some aspect of his training left out, but the greater one of being subjected to variations in technique and method.

(2) The training equipment used may not be the best available. Some clubs have a heterogeneous collection of

gliders, with different handling characteristics and performances, because they cannot afford to buy a matching fleet.

(3) The launching equipment is, in most cases, old, unsuitable and temperamental; thus adding frustration to the difficulties that the pupil has to learn to overcome.

(4) Few clubs are able to offer much in the way of cross country facilities or training.

The effectiveness of the training program in any country is apparent in two ways: The soaring achievements and the accidents. A measure of the first was shown in the results of the last Nationals given at the beginning of this article. To give an idea of the second, the following statistics may be of interest:

	launches	hours	cross-country miles	deaths	incidents
1955	99,757	14,919	10,998	1	61
1956	99,429	15,726	7,713	1	49

(Note: National Competitions were not held in 1956. Figures include civilian and service clubs only. Over and above these figures should be added Air Training Corps total, e. g. 5,186 hours and 65,200 launches in 1956. An "incident" includes any mishap [broken skids, canopies and more serious accidents] reported to the BGA.)

At the present time there have been over 150,000 launches without a death. The writer, however, is not satisfied with the British accident record in respect of damage to gliders. There are some 50 gliders broken every year. Some of these gliders are only damaged slightly (i. e. skid and seat bulkheads) but some are more extensively broken. The serious aspect of this is that the clubs lose revenue when the aircraft are out of action, and the insurance rates stay high. The reason for these accidents is, in general, carelessness, and insufficient skilled training in teaching field landings. Some accidents occur in the training stages, and a few involve two seaters with instructors, mainly assistants, in charge. These accidents could be reduced by improving instructors with more extensive training. There is, however no National Instructors School, the only one in the country being run by Lasham, and there is no financial assistance towards training instructors. Much as volunteer instructors would like to go on courses to improve their skill, it is very difficult for them to obtain leave from their full time jobs, and their families generally have first claim on their money.

It is to be wished that more money could be spent on re-equipment, and on the extension of training facilities both for pilots and instructors, but at the same time it is this very lack of money which produces the strength of British Gliding by forcing the capable enthusiast to take an executive part in the sport of his choice. It is through his work, both in his own club, and the National Association that the operation and administration of gliding remains realistic and intensely active.