

Paragliding

info

Scout
Information
Centre

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Introduction

This is the second edition of the factsheet which updates that coded AA-18 and dated 1986.

Further editions will be published in the light of experience from this edition. Publication of future editions will be notified in SCOUTING Magazine, *Talking Points* and the Activities Newsletter.

The aim of this leaflet

This factsheet is designed to provide a Leader with information so that he can:

- a) Understand the basic aspects of the sport and talk intelligently about it;
- b) Interest his Scouts/Venture Scouts in the subject;
- c) Know how to arrange for his Scouts/Venture Scouts to take part in the sport;
- d) Know where to obtain further guidance and/or instruction.

What is it all about?

In its earlier days known better as parascending, but now much more developed, the sport has come of age and is truly an aviation sport in which all the disciplines are exciting and exhilarating without being frightening.

Most Members will be offered paragliding in its original form; the student, wearing suitable clothing, footwear and a safety helmet, is fitted into a harness which is attached to a parachute-like round canopy. The canopy is held up to catch the wind, the towline tightens as the tow vehicle moves slowly forward, and the Scout is lifted gently into the air. After several minutes he

is lowered just as gently to the ground having flown to a height of perhaps 45 metres. A more experienced pilot can ascend to 240 metres or more when, after releasing the tow line, he can perform turns and manoeuvres - even aiming for a small target on the ground as he descends like a parachutist. On landing he is trained to gather up the equipment and return to the launch point and make ready for another flight.

There is much to learn; the Scout who decides to take the sport further will need to understand how the canopy flies, the effects of weather, the Law and how it affects his new activity, and he must demonstrate that he has mastered the necessary flying skills. He should quickly progress on to the more advanced wing canopies and will be expected to assist the Instructor and crew to help prepare others to fly. It is then possible for Venture Scouts to convert, with the minimum of fuss, to learn how to launch high performance paragliders from hilltops these are capable of staying airborne for many hours and completing cross country flights of 100 kilometres or more in the hands of proficient pilots.

What are the attractions?

- Paragliding is fun.
- Paragliding is an adventurous sport - it has a perceived element of danger and risk which, whilst attracting the older Scout and Venture Scout, is reduced to an acceptable minimum through effective and controlled training.
- Paragliding is one of the least expensive ways of getting Scouts into the air.
- The sport provides opportunities for developing both teamwork and independence, leading to an acceptance of responsibility and improving decision-making.
- No special skills are needed for the beginner to taste the adventure - it is equally available to the disabled.

- The public relations value is considerable, proving, as it does, that Scouting supports modern adventurous activities.

flights in tow-launched paragliding under the supervision of an authorised person holding an Instructor Rating of The British Hang Gliding and Paragliding Association.

Scout Association Rules

The rules relating to paragliding are given in P.O.R. Rule 39.10 which states that:

Rule 39.10 Paragliding

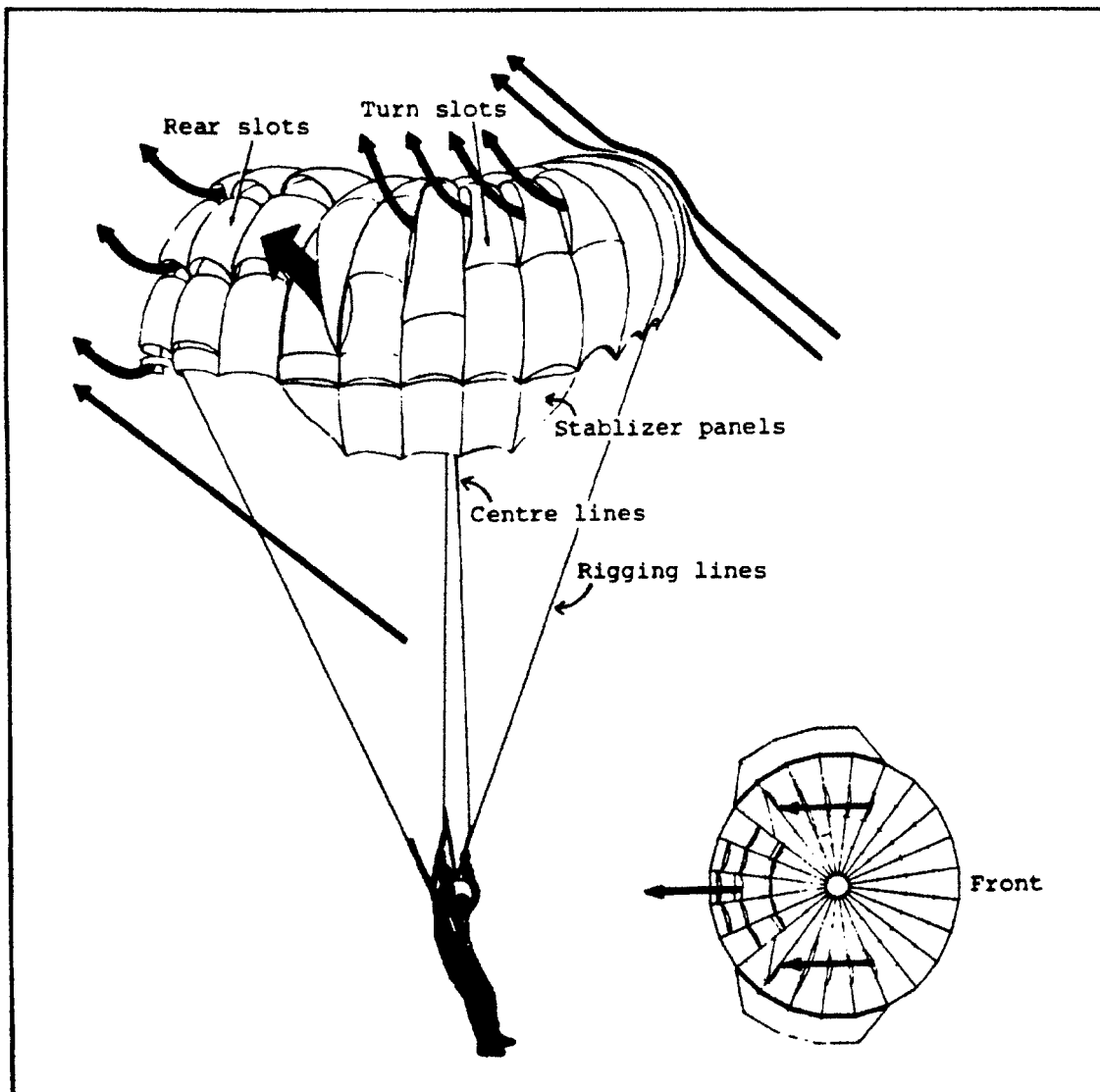
(e) Solo Flights

Members of the Movement aged fourteen years and over may undertake instruction and solo

(f) Dual Flights

Members of the Movement of Scout Section age or over may undertake tow-launched dual flights, with a paraglider pilot approved by the Chief Club Instructor, and under the supervision of an authorised person holding an Instructor Rating of The British Hang Gliding and Paragliding Association.

Fig.1: AIRFLOW THROUGH THE PARA-COMMANDER



History and background

The use of a parachute type canopy to lift a person is first recorded during the First World War, when German U-boats used the technique to lift observers in order to see further than was possible from sea level. Many inventors subsequently tried cutting holes in the sides and back to direct the air caught inside the parachute out through the sides and back to impart a forward speed. An American parachutist, Lemoigne, succeeded in carefully placing and shaping the holes such that lift was created, drag was much reduced and stalling of the airflow was prevented. This improved lift-to-drag (L/D) ratio gave a better glide angle, reduced the rate of descent, and allowed a high degree of manoeuvrability. (See Figure 1 above.)

In the early 1960s it was Walter Newmark who quickly realised the potential of this design and adapted it to create, under tow, an ascending parachute. After this there were many copies, but the original Pioneer Paracommander remains the mainstay of the Scout parascending clubs.

Parachuting saw the development of 'ram-air wings' which were quickly adopted by parascenders. They work by allowing air to pressurise a double skinned fabric aerofoil as it moves through the air; this maintains the wing shape and gives a L/D ratio of about 2 or 3:1. Control lines connect to the trailing edges and work as drag ailerons to give a steering and braking effect.

In mid 1980s another development of the ram air wing produced sleeker canopies with greater aspect ratios and resultant L/D ratios of 7 or 8:1 which make greater use of hill lift and rising thermals. The improved characteristics of these high performance paragliders require a much more sensitive touch and need careful handling in turbulent conditions.

From its very earliest days The Scout Association recognised the attraction of the sport and provided equipment and encouraged potential instructors to attend the necessary courses through what was to become the national governing body of the sport.

The British Hang Gliding and Paragliding Association (BHPA)

Formed in 1992 as an amalgamation of the two previously separate bodies for each of the sports; the BHPA sets national safety and training standards and issues Instructor licences, promotes a pilot rating scheme, and is recognised by The Scout Association as the controlling body. A monthly magazine - **Skywings** - contains articles on safety, training and general interest, and conducts a lively review of current topics through its letter pages.

The people

In charge of the complete operation (see Figure 2 below) is a qualified BHPA Instructor, who is responsible for training and briefing a support crew which consists of

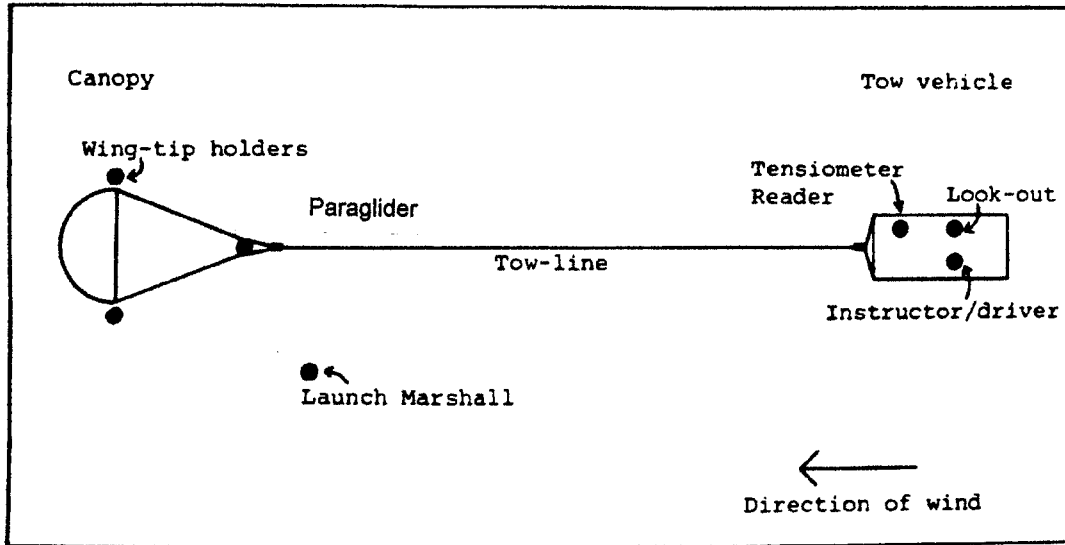
1. The Instructor/Driver who may be accompanied by a look-out to relay launch signals to the driver and check that all is clear during the tow; and a tensiometer reader, who calls out the readings from a meter which measures the tow line tension.
2. The Launch Marshal who controls the preparation and signals at the take-off area, assisted by the wingtip holders who check and help to inflate the canopy prior to launch.

Scouts may act as look-outs, tensiometer readers and wing tip holders, but the driver must be a qualified Tow Operator and the Launch Marshal must have previous experience of parascending operations.

The equipment

Properly certified and maintained gliders and suitably adjusted harnesses to fit and carry the student must be used. Well fitting safety helmets are obligatory and strong ankle support boots should be worn by the student.

Fig.2: LAYOUT OF THE LAUNCH



Training and flying - tow launched

Whether a round type canopy or a ram-air wing is used the basic technique is the same. After the relevant ground training and equipment familiarisation is completed the canopy is laid out facing into the wind, checked and prepared. The harness is fitted to the Scout and attached to the tow line using a simple quick release mechanism; the Instructor will explain what is going to happen and what the Scout is to do. The canopy is then made ready and, when the Launch Marshal is satisfied that all is well, he will signal the tow vehicle to 'take up the slack in the tow line'; as the line tightens he will order the wingtip holders to 'Stand up, then 'Let go' when the canopy is filled with air. As the canopy starts to lift he will check that all the lines are clear and, if this is a good launch, will signal 'All Out'- whereupon the driver adjusts the speed to lift the student off the ground. This usually means that the Scout will take 2 or 3 paces, keeping his balance, before he takes off and climbs gently into the sky.

The driver maintains a steady tow tension for a while then eases the speed to lower the Scout to the ground for a controlled landing; alternatively, the more experienced pilot may indicate to the driver, by opening his legs wide apart, that he wishes to release himself from the tow line. The driver will then relax all the tow line tension and the pilot pulls the quick release cord; the tow line falls away and the pilot descends, carrying out whatever

manoeuvres have been agreed beforehand. In this case he will normally carry out a 'parachute landing fall (PLF)' to reduce the landing impact to a minimum. If he is flying a ram-air wing he will not be given a controlled descent but will release the tow line and on final approach 'flare' or stall the paraglider which reduces his ground speed and descent rate to allow a standup landing.

Over-water operating

Paragliding can also be carried out over water, with the use of a speed boat. Some additional minor items of equipment are required and somewhat different techniques are involved. Ascents usually involve long low-level flights, and it is often possible to be towed away from the wind line and round in complete circles.

Training and flying - hill launched

The training and preparation is almost identical to that described above, except that there is no support crew. The student is taught and practices inflating and launching the paraglider for himself, and once this is mastered he carries out several 'bunny hops' on a nursery slope. From here he gradually moves on to higher hills, improving his skills accordingly, until he achieves soaring flight. From here it is a short step to learn the skills of thermalling and extended cross country flight.

Scout badgework

Scouts over the age of 14 may qualify for a Parascending Pursuit Badge under the supervision of a BHPA Instructor. It is also possible for paragliding to count towards part of the training scheme in both the Scout and Venture Scout Sections. Those attaining flying ratings may also be eligible for the Scout Wings Badge. Details of the requirements within the Duke of Edinburgh's Award are available from the D of E Awards Office.

Instructor training

Operating experience may be obtained by operating with Scout or non-Scout Clubs - in this case you should make arrangements with the Club Chief Instructor concerned.

Publications cross reference

The Current Edition of:-

Policy, Organisation and Rules of The Scout Association

Authorisation Scheme for Air Activities - FS120701.

Access to Airfields - FS120702

BHPA Training Wings available from the BHPA.