



**British Parachute Association
Parachuting Regulations
1967**

Presented to the **B·P·A**
by

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SUBJECT TO AMENDMENT

BRITISH PARACHUTE ASSOCIATION LTD., PARACHUTING REGULATIONS 1967

Introduction

1. These Regulations are issued under the authority of the BPA Council on the recommendation of its Safety and Training Committee for use by all BPA Instructors, Members and Affiliated Parachute Clubs, Centres, Schools and Associations.

2. For the sake of simplicity they have been entitled BPA Parachuting Regulations 1967 and are set out in three parts:

PART I Guidance on Basic Safety and Recommended Procedures

PART II Appendices

PART III Safety Regulations

3. Inevitably there is some overlapping between all three parts and each should be read in conjunction with the other two. Part I contains the background to the Regulations and explains their significance. It also contains guidance on Basic Safety and a number of Recommended Procedures. Where no reference is made to these in Part III (Safety Regulations) it may be assumed that they are not mandatory. Nevertheless they should be followed unless a Club has adopted an alternative system of its own choice which achieves the intended standard and which it is prepared to justify if called upon to do so.

4. Part III represents a summary of the most important safety considerations, expressed briefly as Regulations. These permit no variation and must be observed in the letter and the spirit by all BPA Members and Affiliated Clubs, Centres, Schools and Associations.

5. Throughout the Regulations the word "Club" will be taken to refer to BPA Affiliated Parachute Clubs, Schools, Centres and, where applicable, Associations.

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SECTION 1—CONDUCT AND CONTROL OF SPORT PARACHUTING

The "Ten Basic Rules"

1. All parachuting within BPA Affiliated Clubs, Schools, Centres and Associations must take place under the following conditions:

First. Under arrangements made by a BPA approved Instructor who has been nominated as the Club Chief Instructor (C.C.I.) and who is normally present when parachuting is in progress.

Second. By parachutists who are in every respect fit, trained, dressed, equipped and briefed to undertake the descent planned.

Third. When an adequate ground control organisation is in operation.

Fourth. With an approved pilot, and a jumpmaster qualified to dispatch the parachutists concerned.

Fifth. With parachutes in good condition, safe in all respects, correctly packed, well fitted, and inspected before emplaning.

Sixth. From an authorised type of aircraft suitably equipped and prepared for parachuting.

Seventh. When weather conditions are suitable.

Eighth. Onto an approved DZ.

Ninth. With all documentation in order and up to date.

Tenth. According to the conditions laid down in BPA Parachuting Regulations.

2. Responsibility.

- (a) Overall responsibility within BPA Affiliated Clubs, Schools, Centres and Associations for ensuring that the conditions enumerated in Paragraph 1 above are observed will be vested in Club Chief Instructors (C.C.Is.).
- (b) Restricted Permit Holders (See Section V) may only parachute under the organised control of a BPA Affiliated Club, School or Centre and under the supervision of a C.C.I. or BPA Instructor authorised by a C.C.I. Such instructors will be wholly responsible for their training and parachuting activities.
- (c) Groups of General Permit Holders (See Section V) should only parachute under the supervision of a BPA approved Instructor. Where this is being conducted independently of an established Club, Centre or School the Instructor in charge will be regarded for this purpose as having the same responsibilities

and authority as though he were a C.C.I. G.P. Holders are authorised to parachute independently providing they do so in accordance with B.P.A. Regulations.

3. Ground Control Organisation.

- (a) Local conditions will to some extent determine the nature of the organisation required to ensure safe and efficient parachuting. The organisation will be influenced by such factors as:-
 - (1) The numbers of parachutists involved.
 - (2) Their qualifications (General or Restricted Permits).
 - (3) Their familiarity with the system and local organisation.
 - (4) The number of aircraft in use.
 - (5) Other activities in progress (private flying, gliding etc).
 - (6) The number of Instructors available.
- (b) Clubs, Centres and Schools should devise a system of ground control suitable for their own circumstances which will meet the following minimum requirements:
 - (1) All parachutists must be briefed and inspected before emplaning.
 - (2) All aircraft lifts must be correctly manifested before take off.
 - (3) DZ control must be continuously established when parachuting is in progress, and the descent of all parachutists must be observed.
 - (4) Parachutists under instruction must be debriefed after every descent.
 - (5) Parachutists' log books and other relevant records must be maintained up to date.
 - (6) Parachute packing by all those who do not possess a Parachute Packing Certificate must be adequately supervised.

4. Briefing of Parachutists before Emplaning.

- (a) All Parachutists under instruction must be briefed by a CCI (or an Instructor nominated by him) on the details of every planned descent before parachutes are fitted.
- (b) All other parachutists will notify the type of jump they propose to carry out to the Instructor or J/M who is making out the manifest, together with all relevant details. This will enable the J/M to complete the briefing of the complete lift.

5. Manifesting of Parachutists. All Parachutists must be manifested on a form designed for the purpose before they emplane. It is normally desirable for the J/M to carry a copy in the aircraft. It is essential that one copy is left in the hands of a responsible member of the Ground Control Staff. It is recommended that all Clubs should use a Manifest Board on which the names of the parachutists in every planned aircraft lift should be clearly written. This should be displayed where all concerned can read it.

6. DZ Control.

- (a) A Control organisation must be set up on all DZs to ensure that parachuting is safely and efficiently controlled at all times. It should be fully established by the time each lift takes off and must remain on the alert until all parachutists (and aircraft if applicable) have landed.
- (b) The DZ Controller must be an Instructor or Ground Instructor who has been fully briefed on his duties by the CCI.
- (c) The recommended duties of the DC Controller are given at Appendix 'D'. They may be varied as necessary in order to fit in with local conditions providing that the safety standards which they are intended to achieve are in no way reduced.
- (d) The DZ Controller may be assisted by any number of others but he alone is responsible for ensuring that ground control is fully established and that all the functions allocated to him are efficiently carried out. When parachuting is in progress his correct place is normally either at the target or in a control post (such as the airfield Control Tower). He must be positioned so as to be able to observe the landing of all parachutists on the DZ.
- (e) The DZ Controller's duties will be recorded in writing, signed and dated by the CCI.

7 Debriefing of Parachutists. All Parachutists under instruction should be debriefed after every descent. This should be in two parts: firstly, on his exit by the Instructor who acted as J/M and secondly, by the DZ Controller who observed his opening, canopy control and landing. His free fall should also be observed and noted either from the air or from the ground.

8. Maintenance of Records. Club and Personal Records of parachute descents and parachute packings should be recorded in the appropriate log books, registers and record cards, the same day as they are made.

9. Parachute Packing. Arrangements for the supervision of parachute packing by all who do not possess a packing certificate must be planned in detail and understood by all concerned. Clubs may use their

own systems providing that:-

- (a) An Instructor or Ground Instructor is nominated by the CCI to take charge of the packing area.
- (b) All parachutes are checked for damage after every descent and withdrawn from use if found unserviceable.
- (c) All parachutes are correctly packed. They must be checked at the appropriate stages by a member of the Ground Control Staff nominated by the CCI or Instructor in charge of the Packing area.

10. Ground to Air Signals.

- (a) There will be a standard code of ground-to-air signals used by all BPA Affiliated Clubs, Schools and Centres. These will consist of red, orange, yellow or white panels of sufficient dimensions to be clearly visible by parachutists from whatever height they are jumping.
- (b) The basic signal will be a cross (X) indicating the target in the vicinity of which it is intended that parachutists will land.
- (c) When the FULL CROSS (X) is displayed it indicates that conditions are judged to be safe for all Categories of Parachutists.
- (d) When the (X) is changed to a (T) it indicates that conditions are NOT suitable for all parachutists. Thereafter only parachutists authorised by the Chief Instructor may jump.
- (e) When the (X) or (T) is changed to an (I) this will indicate that *all* parachuting is temporarily suspended but the aircraft may remain airborne at the discretion of the pilot pending a further change in signals.
- (f) When (X) (T) or (I) is changed to (L) it will indicate to the pilot and jumpmaster that parachuting is suspended and the aircraft must LAND with all remaining parachutists on board.
- (g) Every DZ will be equipped with a windsock or other suitable means of conveying the strength and direction of wind to parachutists who are preparing to land. During demonstrations on Restricted DZS this may take the form of artificial smoke.
- (h) A visual means of indicating the ground wind speed in metres per second to parachutists approaching the target is of great assistance in achieving accuracy. The method of indicating wind velocity and direction is to place a panel down wind of the centre of the target by the same number of panel lengths as the wind speed in m.p.s. (metres per second). All clubs should have a proper anemometer.

SECTION II—INSTRUCTORS

1. There are four categories of BPA Instructor:
 - (a) Chief Club Instructor (CCI)
 - (b) Advanced Instructor.
 - (c) Instructor.
 - (d) Ground Instructor.

2. Club Chief Instructors. A CCI must be either a BPA Advanced Instructor or BPA Instructor. He is responsible for the safe conduct of all parachuting activities within his Club, and for the maintenance of Club parachutes and safety equipment. He may delegate his responsibilities to qualified subordinates as he thinks fit but he principally is answerable to the BPA for all matters concerning safety within his Club. He has the full backing of the Council to ground any member of his Club or visitor using his Club's DZ on grounds of contravening BPA or Club Safety Regulations or whenever he considers it in the interests of the Club or member to do so. He may recommend to the Council that any BPA member be permanently grounded, giving his reasons in writing. In such cases members concerned will have the right of appeal.

3. Advanced Instructors.

- (a) An Advanced Instructor must have all the qualifications laid down for a BPA Instructor, plus an additional degree of experience, maturity and instructional ability in keeping with the more advanced grading and requirements.
- (b) Members must have been qualified as BPA Instructors for at least one year before they may apply for examination as Advanced Instructors by two BPA Examiners.
- (c) Ratings as Advanced Instructors must be renewed not less frequently than every two years by two members of the Panel of Examiners who must inspect log books of those concerned and satisfy themselves that they are, currently, in practice and have no reason to doubt a member's continued suitability to hold an advanced rating. If an Examiner wishes he may ask a candidate for re-rating to submit to a practical test.
- (d) The qualifications of an Advanced Instructor are given at Appendix 'A'.

4. BPA Instructors.

- (a) A candidate who wishes to qualify as a BPA Instructor must be recommended in writing as suitable in every respect by a CCI or Advanced Instructor who knows him personally and has seen him parachuting regularly during a period of not less than six months. (Exceptions to this rule may be made on application to the Council in the cases of Commonwealth or foreign instructors visiting Britain on production of their credentials.)
- (b) Candidates must arrange to be tested either separately or jointly by two BPA Examiners to whom the written recommendation referred to in sub-para (a) above must be shown.
- (c) At intervals or not less than 2 years all BPA Instructors will submit themselves for re-rating before two BPA Examiners who will examine their log books to satisfy themselves that they are in current practice (not less than 10 delayed opening descents to be made every year). Candidates for re-rating may also be required to undergo a practical test if either Examiner should think it desirable.
- (d) The qualifications required of a BPA Instructor are given at Appendix 'B'.

5. Ground Instructors.

- (a) Ground Instructors may be appointed only by Club CIs in order to assist with ground training and organising duties. They must be over 21 years of age.
- (b) Notification of their names, and particulars including their BPA numbers must be notified in writing to the BPA *before* they assume their duties.
- (c) Their duties will be confined to the ground unless they are also qualified to act as Jumpmasters. They may include the following:-
 - (1) Supervision of Parachute packing.
 - (2) Parachute fitting.
 - (3) Ground Training Instruction.
 - (4) Marshalling.
 - (5) DZ Control.
- (d) Ground instructors are responsible only to the CCI of the Club who submits their names to the BPA. They will have no authority to instruct at other Clubs or Centres unless additional registration is undertaken with the BPA.

- (e) Ground Instructors will be selected with particular regard to their experience, reliability, attitude towards safety and ability to inspire confidence. They should be well established and respected within a Club before they are appointed.

6. Qualities of a Sport Parachute Instructor. This is worth thinking about, and many will have their own ideas. One man's version is given at Appendix 'C'.

SECTION III—JUMPMASTERS (J/M)

1. A Jumpmaster is a General Permit Holder appointed by the CCI to take charge of the parachutists on any particular aircraft lift. He will normally be the most experienced parachutist on board and this will be assumed in the absence of orders to the contrary.
2. General Permit Holders acting as Jumpmasters may only despatch parachutists of Category VI and above. All parachutists in Categories I to V inclusive MUST be despatched by a BPA Instructor.
3. General Permit Holders training as instructors may despatch students under the direct supervision of Instructors in the aircraft.
4. No aircraft with more than one parachutist on board will take off without a J:M being appointed.
5. J/Ms are responsible for briefing their pilots before take off on all relevant points concerning the requirements of the parachutists to be dropped. They will also brief the parachutists fully *before* emplaning.
6. J/Ms are responsible for inspecting all Restricted Permit Holders of their lift immediately before emplaning, and ensuring that General Permit Holders have inspected each other. (See Appendix 'E'.)
7. In an emergency J/Ms will, if practicable, seek and follow the instructions of the pilot. If this is not possible they will use their own judgement and act accordingly. (See Section XVIII—Emergency Procedures.)

SECTION IV—EXAMINERS

1. All BPA Instructors and Advanced Instructors must be tested initially and thereafter at two yearly intervals by TWO members of the Panel of Examiners.

2. Examiners are appointed by the Council from among the more experienced and suitable Instructors. They need not themselves hold an Advanced rating, but candidates for examination as Advanced Instructors may only be tested by Examiners who hold that rating.

3. When examining the candidates as potential instructors every Examiner must be fully aware of his responsibilities towards the BPA, the Club, the students and the candidate himself, and the consequences which may flow from an accident due or partly due to faulty instruction. If there is any reasonable doubt in his mind that the candidate is too inexperienced, temperamentally or in any other way unsuitable, an Examiner must NOT sign the recommendation form.

SECTION V—CLASSIFICATION OF PARACHUTISTS:

1. Parachutists are classified in three ways:-

- (a) According to whether they hold a Ministry of Aviation *General* or *Restricted* Permit to Parachute.
- (b) According to their British Standard F.A.I. Certificate (A, B, C or D) should they hold one. These certificates are issued under the authority of The Royal Aero Club.
- (c) According to their Category in the BPA System of Parachutists' Classification (Categories I to X). See Appendix 'F'.

2. All three methods of classification, the details of which appear under Section XXIII PERSONAL DOCUMENTS, may be used in assessing a parachutist's skill, experience and rating.

3. Parachutists will not be recommended by their CCI for a General Permit before they have been classified as Category VIII Parachutists.

SECTION VI—PILOTS.

1. To be qualified for testing for suitability to drop parachutists a pilot must have at least 100 hours flying solo or as pilot in command, and be thoroughly familiar with the aircraft to be used.

2. Before a pilot may drop parachutists he must be fully instructed by a BPA approved instructor on techniques, signals and what is required of him. He should then be tested on live dropping.
3. The first live test drop carried out by a pilot should be either of the parachute instructor who has briefed him on his duties, or of one or more GP Holders despatched by the instructor concerned.
4. Having been successfully tested the pilot's name must be forwarded together with recommendations by a CCI and CFI to The Ministry of Aviation Division concerned with parachuting in the area in question with copy to the BPA for information. Only after this action has been taken may a pilot carry out routine live dropping of parachutists.
5. Recommendations (see para 4) must include the Pilot's Licence Number and Type, his total hours solo flying and the main types of aircraft he has flown with approximate hours on each.
6. The pilot is responsible for the loading of the aircraft and must satisfy himself that the payload for each lift is within the limits allowed as stated in the Weight Schedule for the aircraft.

SECTION VII—AIRCRAFT.

1. The only aircraft to be used for sport parachuting in Great Britain are:-
 - (a) Those approved by the Ministry of Aviation and notified in writing by it.
 - (b) Service aircraft cleared for parachuting by A and AEE Boscombe Down.
2. Before any aircraft may be used for parachuting it must be suitably prepared. This normally involves the removal of passenger seats (except in aircraft modified for parachuting purposes), one door, and all loose items of aircraft equipment, stores and baggage etc., which might accidentally become dislodged and fall from the aircraft in flight. Any sharp edges of open doorways or protruding objects on the fuselage which might interfere with a parachutist's exit or his parachute must be protected with masking tape.
3. It is recommended that where practicable some form of harness should be fitted to prevent parachutists being thrown from an aircraft in an emergency or as a result of an unexpected movement in flight.

SECTION VIII—EQUIPMENT.

1. Parachutes—General.

- (a) All sport parachutists are required to be equipped with two airworthy parachutes attached to a common harness. The *main* parachute will be a "back-type". If its canopy is "flat circular" it will have a diameter of not less than 28 feet. Other types of canopy of smaller diameter may only be used if they have been manufactured for use by sport parachutists by a recognised parachute manufacturer. The main canopy must be packed in a deployment sleeve using a suitable extractor parachute. Parachutes without Double Seat straps must be approved for use by a CCI or approved BPA Rigger. D rings must be securely fastened to the harness.
- (b) The *reserve* parachute will be either:
 - (1) A chest-type assembly mounted on "D" rings integrated into the main harness, with a canopy at least 24 feet in diameter, and packed into a container designed for the type and size of the canopy used. Reserve parachutes fitted with extractors may only be used by GP Holders.
 - (2) A back-type assembly mounted in its own container above the main parachute. This type must be manufactured either by a recognised parachute manufacturer or, if made by an individual, must be inspected and approved by the BPA Safety and Training, or Technical Committees.
- (c) Any modifications (e.g. blank gores) to the main or reserve assemblies must be carried out by a parachute manufacturer or an individual with the necessary technical qualifications.

2. Parachutes—Responsibility.

- (a) General Permit Holders are wholly responsible for the safe condition of their equipment at all times and for ensuring that checks and inspections are carried out on it as required (see Paragraph 3 below).
- (b)* Club Chief Instructors are responsible for the maintenance and safe condition of all items of Club equipment, and for the serviceability of any personal equipment used by Restricted Permit Holders parachuting under their supervision.

3. Parachute checks and inspections.

- (a) *General.* A parachute's condition is liable to deteriorate either suddenly as a result of damage, or gradually over a period of time as a result of age coupled with normal wear through usage. In both cases

it is important that the deterioration is spotted in time and the correct action taken.

- (b) *Packing checks.* All parachutists should be taught how to check parachutes for damage at an early stage during their initial ground training. These checks will be carried out automatically whenever a parachute is packed. When damage is noticed it should be reported to an instructor or rigger who should take immediate steps to withdraw the equipment from use for repair or condemnation. Connector link screws should be checked for tightness, and harness stitching for signs of weakening.
- (c) *Minor inspections.* At regular intervals, and not less frequently than after every 20 jumps, parachutes should be inspected by an instructor or rigger. All components should be inspected for signs of damage or deterioration and remedial action taken where necessary. Connector link screws should be checked with a screwdriver.
- (d) *Annual inspections.* Once a year, or after every 100 descents (whichever is the shorter interval), parachutes should be thoroughly inspected for deterioration by a parachute manufacturer or an instructor or rigger who is qualified and authorised to do so by a Chief Instructor.
- (e) *Pre-Jump Checks.* Pre-jump checks will be carried out after equipment has been fitted and before a parachutist emplanes. In the case of student parachutists this check will be made by an instructor. General Permit holders may check each other. A list of points which should be included in this check is given at Appendix 'E'. These checks should be made immediately before emplaning in the presence of the Jumpmaster.

Parachute Records.

- (a) Every BPA Club, school or Centre must have a satisfactory system of documentation covering all Club etc., parachutes and property. It must provide for the recording of all packings, repairs and modifications. The BPA Parachute Record Card has been introduced for this purpose.
- (b) It is recommended that CCIs should appoint an instructor to be responsible to him for this aspect of club documentation.

Parachute Modifications.

- (a) All parachutists are warned against experimental modifications⁹
- (b) Parachutes will only be modified by those who are technically qualified to do so.

- (c) In modifying a 28 foot flat circular canopy for use by sport parachutists no more than the equivalent of three gores may be removed. Moreover, 25 gores must remain unmodified to a distance of 3 feet from the hem of the canopy. Under no circumstances must the peripheral band be modified except under factory supervision.

6. Parachute Packing.

- (a) All parachutes must be packed according to a system approved by the manufacturer.
- (b) Clubs are responsible for training their pupils to pack parachutes and for giving them the necessary supervision until they are given a Packing Certificate.
- (c) Parachutes will not be stored in a damp condition, and silk parachutes will not be repacked or used in a damp condition.
- (d) When a parachute has been packed for 90 days or more it may not be used before it has been unpacked, inspected, aired (to diminish creasing of the canopy), and repacked. If possible a parachute should be suspended by its apex when being aired.
- (e) The practice of tying a piece of red cotton in the form of a seal between rip cord pins and pack closing grummets to denote a club parachute ready for use is recommended.
- (f) Parachutes which are not in every respect fit for immediate use must *NEVER* be packed with the appearance of a serviceable parachute. They should be closed with the sleeved canopy clearly showing at each end of the pack the ends of which should be open.

7. Instruments.

- (a) Instruments must be carried on all parachute descents involving a planned delayed opening of 10 seconds or more. Instruments will consist of a single altimeter and stop-watch or two altimeters.
- (b) Instruments will be securely mounted in a fully visible position on top of the reserve parachute if it is chest mounted, or on the main harness and/or wrists if the reserve parachute is worn on the back.
- (c) Instruments must not obstruct or interfere with the opening of the reserve parachute.
- (d) Sensitive altimeters are unsuitable for use in free fall and should not be used to determine opening height. They are additionally dangerous if equipped with a needle which makes a revolution every 1,000 feet.

Automatic Opening Devices (AODs)

- (a) AODs may be used by all parachutists providing they are of a recognised make and cannot lead to a premature opening of the parachute in the aircraft.
- (b) AODs may be used in conjunction with either the main or reserve parachute, but must only back up the manual operation of the main.
- (c) All parachutists will submit personal AODs to their CCI for inspection before taking them into use.

Personal Clothing and Equipment. All parachutists should be equipped with the following items of personal clothing:

- (a) A one-piece overall, flying suit, boiler-suit or track suit. This should be strongly made, be well fitting, and provide reasonable freedom of movement.
- (b) A strong well fitting helmet, without peak, of a type either specially manufactured for parachutists or as worn by motor-cyclists. It should have a dependable strap-fastening system and if possible be approved by the British Standards Institute or equivalent foreign organisation. The forehead and base of the skull must be adequately protected.
- (c) Goggles allowing good all-round vision, preferably of all-plastic or similar construction should normally be worn.
- (d) A pair of suitable boots. Unsuitable boots lead to avoidable minor injuries on landing and also present a slight threat to the proper deployment of the parachute if the parachuteist does not achieve a stable opening. Recommended boots should be stoutly made, of ankle or calf length, equipped with laces and eyelets and without buckles, hooks, studs or metal plates etc. The soles should preferably be leather or smooth rubber. If not constructed for sport parachuting the existing instep (arch) cavity should if possible be modified in one of the following ways:-
 - (1) By filling in the cavity with wood or other suitable material so that the sole is then completely flat and smooth; or
 - (2) By cutting back at an angle of 45 degrees the heel edge nearest the toe, thus leaving the sole without any sharp projection.
- (e) Suitable gloves are an aid to parachuting under all conditions and should always be worn in cold

weather (when the ground temperature is 40 degrees F or below). Gloves should be of soft leather and not heavily padded. A silk lining provides additional warmth in extremely cold conditions. Gloves (not gauntlets) manufactured for skiers are usually ideal for parachutists.

10. Ascending Parachutes. The use of ascending parachutes by ground launching do not come within the provisions of BPA Regulations. The Association does *NOT* associate them with SPORT PARACHUTING, and it recognises that they have their own characteristics which require special training by those who use them and those who instruct others in their use. Descents made by use of ascending parachutes will *NOT* be recorded in Log Books used for Free Fall or S/L Descents.

11. Smoke Generators.

- (a) Smoke generators will only be carried by General Permit Holders and with the permission of the CCI. They will be of a dependable type and must be securely fitted to the parachutist's boots in such a way that they cannot work loose in the air. They must be inspected immediately before take-off to ensure that they are correctly fitted and not primed so that they could be inadvertently detonated in the aircraft.
- (b) Parachutists will detonate their smoke generators after exiting the aircraft.

12. Additional Control Surfaces. No wings, cloth extensions or any other form of additional control surfaces may be used as part of the dress or equipment of any parachutist.

13. Static Line Operation.

- (a) The BPA approved system of static-line operation for use in the training of sport parachutists is the "break-tie" system. By this system the parachute is packed in the normal way together with its attached pilot chute, but the main parachute pack (container) is opened by means of a static line attached to the aircraft instead of the use of a rip cord operated by the parachutist. The static line is used to break a series of ties—one at each cone and grummet. Each tie should be made of nylon thread of a strength which will require a pull of approximately 50 lbs to break it. More than this may damage the pack on opening, less may lead to the pack bursting open prematurely under the compression of its contents.
- (b) Clubs which wish to use alternative systems of static line operation must obtain the permission of the BPA Technical Committee to do so.

- (c) Strong point in aircraft should be installed by a qualified engineer.
- (d) Static line hook should be of an approved type. British snap hooks should be used with a pin through the snap hinge. It is recommended that the American clip is the better type to be used.
- (e) The line should be made of a good strong fabric, either nylon or strong cotton webbing, strength 3,000 lbs. Length approx. 12 ft–15 ft. If less than 12 ft can cause premature opening of the parachute, if longer than 15 ft can foul tailplane.
- (f) The static line is secured to the aircraft strong point by means of a clip or hook which cannot become disconnected inadvertently.
- (g) It is the Jumpmaster's responsibility to ensure that the static line is clear and not fouling the parachutist before and immediately after dispatch. Although the static line is secured to the aircraft the Jumpmaster should control the static line with his hands and take the opening shock.
- (h) If strong point is in roof of aircraft, the static line should be left outside until the last man of the stick is dispatched before retrieved. If a low strong point is used the static line is pulled in and secured inside aircraft after each parachutist has jumped.

14. Twin Extractors. Twin extractors when used will both be attached to a single bridle cord.

SECTION IX—MEDICAL

General.

1. Before anyone is permitted to parachute it must be established that he/she is physically and temperamentally fit to do so. It is the responsibility of the CCI to form his own impression of candidates' suitability to undergo parachute training and the reasons which lie behind their ambition.
2. There are many reasons why people wish to parachute and not all of them sound or laudable. Bravado, the desire to impress others, the result of a wager or a dare and even a tendency towards suicide have all been encountered. One of the more common of these reasons is the secret desire to prove certain characteristics to themselves which they suspect, often with some justification, they do not possess. The mental conflict which ensues in the mind of the pupil is better avoided if an instructor can detect his true motive for wishing to parachute.

3. Instructors should interview all candidates and try to assess their reasons for parachuting. Those who do not appear to be suitable in any way should be politely but firmly discouraged. It is quite wrong for any parachutist to adopt the attitude that "anyone can jump if they put their mind to it". The fact is that only a minority of able-bodied people do make parachutists for many sound and obvious reasons. There is no point in encouraging anyone to take up sport parachuting if they are likely to injure themselves or are unlikely to enjoy it.
4. Overweight parachutists and those who are below average in agility are bad risks. Age in itself is no reason not to parachute providing those beyond 40 are more fit for their years and are sensible in their assessment of what is involved.
5. Any history of frank neurosis or psychosis is a definite cause for rejection, and suspicion is justified where candidates announce that they have, at some time, suffered from 'nervous breakdown' or 'loss of memory' or have been subject to any form of compulsive behaviour. Fear of heights is of little significance in connection with parachuting, although, if marked, it may interfere with training.
6. All BPA members and Affiliated Club members must be medically examined by a doctor for their fitness to parachute, not less frequently than every two years. The BPA Medical Certificate, which contains guidance for medical practitioners who have little knowledge of what parachuting calls for is attached at Appendix 'G'.
7. Mental alertness is of paramount importance and the I.Q. of all parachutists should be above average. The inability to respond to an emergency when seconds count is liable sooner or later to lead to disaster.
8. Alcohol dims the judgement and slows reaction. No parachutist will take any form of alcoholic drink before he has completed parachuting for the day. Equally important is the need to remain sober during the evening before parachuting the following day.
9. Parachutists who do not feel fit in all respects, and particularly if they have a head cold, must not parachute until they have fully recovered.

SECTION X—TRAINING

General.

1. The sound, thorough and progressive training of a pupil by a competent instructor is the best insurance against mishap.
2. All training must be systematic, with a clear understanding between instructor and pupil on the standard to be achieved.

3. If at any stage of a pupil's training it becomes apparent to his instructor that, despite every reasonable chance, he is not responding to instruction or learning from his mistakes, and particularly if he demonstrates a lack of dependability or confidence in himself, he should be suspended from parachuting in his own interests. Serious accidents often happen to those with a history of recurring problems (such as the unwarranted use of the reserve parachute).

4. Records. A clear record should be kept showing what training has been completed in the case of every individual. It should include details of any problems encountered and the response of the student to corrective training.

5. Ground Training of Novices. A minimum ground training programme for novices totalling 13 hours is attached at Appendix 'H'. Not less than 6 hours of this programme will be given before the first static line descent is made. The remainder of the programme will be completed before the fourth static line descent is made.

6. System of Parachutist Classification. Appendix 'F' contains the BPA System of Parachutist Classification. It is designed to be strictly progressive and gives an indication of the rate of progress which may be achieved by an *above-average* pupil. This system must be followed with care and under no circumstances may any novice's training be accelerated beyond the stages laid down.

7. Deployment of Reserve Parachutes in Emergency. Considerable emphasis will be given at all stages of a parachutist's training to the importance of correct reserve parachute deployment in emergency. Instantaneous reaction must be achieved following a complete malfunction of the main parachute if the reserve parachute is to have a fair chance of fulfilling its principal purpose.

8. Handling of Reserve Parachutes in Aircraft. The greatest care is required in the handling of reserve parachutes in aircraft, and particularly under cramped conditions. Instructors will emphasise, at all stages of training, the dangers resulting from the premature activation of reserve parachutes, and will maintain constant watchfulness for careless handling of reserves in aircraft.

9. DZ Drills.

(a) On landing parachutists will:-

(1) Collapse their canopies.

(2) Stand up and wave to the DZ Controller to indicate they are uninjured.

- (3) Roll up their parachutes and hasten off the DZ.
- (4) Cross the runway with care, if it is necessary to do so, stopping short of it and facing any aircraft about to land or take-off.
- (5) Report to the DZ Controller for comments on canopy control and landings.
- (6) Proceed to debriefing by Jumpmaster on exits, flight techniques and parachute openings.

10. Parachute Packing. Initial training in parachute packing will be given to all student parachutists as early as possible in their ground training syllabus in order to enable them to pack their parachutes under supervision. Until this instruction has been given and the necessary standard reached, no pupil will be allowed to pack his parachute without the full supervision of an instructor.

11. Maximum Number of Descents for Restricted Permit Holders.

- (a) No Restricted Permit Holder will complete more than three parachute descents in a single day.
- (b) Following three full days parachuting one complete day of rest will be compulsory.

12. Use of Small Aircraft for Training of Pupils. Small aircraft are less suitable than larger ones for the training of pupils. If there is no alternative extreme care will be taken in all the movements and actions involved by instructors and pupils alike.

13. Restrictions on Parachutists following a Lay-off.

- (a) Restricted Permit Holders who have not made a descent for two months or more will revert to the static line or a short delay before being allowed to progress.
- (b) General Permit holders who have had a lay-off of six months or more will resume parachuting with a delayed drop not exceeding 10 seconds.

14. Restrictions on Types of Parachute.

- (a) It is recommended that pupils should begin parachuting on a "Double L" or comparable canopy. Plain canopies and Garry gores are acceptable.
- (b) No parachutist will be permitted to use a "TU" canopy until he has at least 20 descents on a steerable canopy and has proved his ability to handle it.
- (c) No parachutist will be permitted to use a "Paracommander" and similar high performance canopies until he has at least 50 descents on a steerable canopy and preferably 100.

SECTION XI—WIND

1. **Wind.** Wind effect is a principal cause of injuries sustained by parachutists. The acceptable strength of ground wind will vary for individuals, depending on such factors as their age, weight, build, parachuting experience, the condition of DZs, types of parachute etc. For these reasons the BPA Ground Wind Speed Limits may be reduced on occasions at the discretion of Instructors. **THEY SHOULD NEVER BE EXCEEDED.**
2. When ground winds exceed the laid down safety limits parachuting should be stopped immediately for those categories concerned regardless of all other considerations apart from aircraft emergencies.
3. Ground wind speed cannot be correctly judged by human senses. It must be measured by a scientific instrument designed for the purpose. Every club should be equipped with, or have access to, an anemometer and every DZ should have at least one approved type wind sock to assist parachutists in the air.
4. Anemometers should be mounted on or immediately adjacent to the DZ where they can be watched by instructors and parachutists alike.

5. Ground Wind Speed Limits

(a) Category I-V Parachutists	4.5 metres per sec. 10 m.p.h. 9 knots. 14 feet per sec.
(b) Category VI-IX Parachutists	6.5 metres per sec. 15 m.p.h. 13 knots. 22 feet per sec.
(c) Category X Parachutists	8 metres per sec. 18 m.p.h. 16 knots. 26 feet per sec.

6. Suspension and Resumption of Parachuting. Suspension of Parachuting will be ordered for the categories of parachutists concerned after TWO gusts above the limit have taken place within FIVE minutes. After parachuting has been suspended it will not be resumed for at least 30 minutes during which time no gusts above the limit have occurred.

7. Winds above Ground Level.

(a) The winds above ground level may be described as follows:-

Lower Winds (below 2,200 feet above ground)

Upper Winds (above 2,200 feet above ground)

(b) Both Lower and Upper Winds have an important effect on parachutists' drift. In both cases, for all practical purposes, parachutists will drift laterally at the speed of the wind.

(c) Upper winds are not easily measured without elaborate equipment. When available met. forecasters may be consulted, otherwise the observations of experienced parachutists of their drift in free-fall should be sought.

(d) Lower winds may be accurately measured by the use of wind drift indicators.

SECTION XII—WIND MEASUREMENT

1. A wind drift indicator (WDI) is any object which can be conveniently and safely dropped from an aircraft in order to assess the direction and velocity of the lower winds. Its rate of descent should approximate as closely as possible to that of the parachutists for whose guidance it is intended.

2. A WDI should be dropped from 2,200 feet above ground level during an upwind approach when the aircraft is directly over the target. The point where it lands should be carefully noted—preferably on a vertical air photograph of the DZ and its surrounds, and a calculation made in order to assess the correct Opening Point. In cases where particular accuracy is required, or when an inaccurate result is suspected a second WDI should be dropped above the Opening Point based on the first. They may then be considered together and the readings of the two related. *ALL* parachutists should be briefed on the Opening Point before they leave the aircraft.

3. For standard club use WDIs should descend in still air at approx. 18-20 feet per sec. and when dropped from 2,200 feet should take approximately 110-120 seconds to reach the ground. If a WDI takes an appreciably

longer or shorter time to land than this it may be faulty and a second one should be used for comparison. Thus at least two WDIs should always be taken when one is liable to be required.

4. A recommended pattern of WDI consists of a weighted roll of good quality crepe paper 10 inches wide and 21 feet long. The weight, which may be of plasticine, should be of the same length as the width of paper securely attached with adhesive paper to one end of the paper. The weight of a standard WDI is approx. $3\frac{1}{2}$ oz.

5. The colour of a WDI should be chosen so as to provide the best possible contrast with the background against which it will be viewed from the air. Yellow is good for normal conditions and red for use against a background of snow. A WDI comprising equal lengths of light and dark shades (e.g. Yellow and Red) is most easily observed from the air under most conditions.

6. After the WDI has been dropped the pilot should be informed so that he may orbit to keep it in view of the Jumpmaster.

7. A WDI must be dropped:-

- (a) Before parachuting begins,
- (b) Following a significant change in wind velocity or direction.
- (c) Following any break of more than 30 minutes caused by winds in excess of the limits laid down. (See Para 5 above.)
- (d) After parachutists have failed to land in the intended area and a faulty "spot" is not suspected.

8. WDIs should not be re-used after the paper has become damaged, stretched or weak since they will give false readings and the weight may become detached from them.

SECTION XIII—DROPPING ZONES

1. Basic Definitions

(a) *Dropping Zone (DZ)* Is an area of open ground into which parachutists may be safely dropped.

(b) *Target*. Is a signal of white, red, yellow or orange material laid out in the form of a cross on the DZ and easily visible from whatever height parachutists are dropping. It should normally be placed in the centre of the DZ, or offset to one side as dictated by wind direction and other safety considerations.

- (c) *Overshoot Area.* Is an area of ground largely free of major hazards where parachutists may land safely when they have been incorrectly dropped, or have been blown off course by a change in wind conditions. They constitute a means of escape from hazardous areas into which parachutists might otherwise have to land in emergency.
- (d) *Minor Hazard.* Is any object, other than a major object or special obstacle, either natural or artificial, which should be easily avoided, but which, if struck by a parachutist is liable to result in injury. They include tents, dispersed vehicles, hedges and other low obstacles.
- (e) *Major Hazard.* Is any obstacle, either natural or artificial other than a special hazard, which, because of its extent may be difficult to avoid, or because of its nature is liable to cause serious injury if struck by a parachutist. They include buildings, roads and telephone wires.
- (f) *Special Hazard.* Is a hazard which carries a special risk to parachutists. Special hazards include stretches of open deep water and deep rivers, (see paragraph 8), high voltage cables (see paragraph 9), densely built up areas, cliffs and quarries. All of them require greater safety margins than other hazards, and special consideration should be given to their presence in the neighbourhood of DZs.

2. Selection. The suitability of a DZ should be judged by the following criteria:-

- (1) Extent.
- (2) Nature of surface.
- (3) Freedom from hazards.
- (4) Surrounding areas (for overshoot purposes).
- (5) The skill and experience of those who will use it.

3. Approval. All DZs, with the exception of Government and Licenced airfields, must be approved by the Ministry of Aviation who require the following particulars with applications for their use at least 2 weeks before the DZ is required for use:-

- (a) The signed permission of the owner(s) of the DZ to parachute onto the land.
- (b) An accurate map or copy of map of the area giving co-ordinates and showing the proposed DZ, overshoot areas and major hazards clearly marked to scale.

(c) The purpose for which approval is requested (i.e. routine club activities or a specific demonstration by advanced parachutists).

4. Classification. DZs will be classified as:-

either—(a) **UNRESTRICTED**—Suitable for all parachutists.

or —(b) **RESTRICTED**—Suitable for specific demonstrations by advanced parachutists.

5. Unrestricted DZs. These should provide a large open space of even and reasonably level ground which can contain a circle of not less than 600 yards diameter entirely free of major hazards, and largely free of minor hazards. Such DZs are not considered suitable if they are situated within built-up areas unless they are bordered on at least three sides by good overshoot areas.

6. Restricted DZs. Advanced parachutists may apply to the Ministry of Aviation for permission to give demonstration descents on specified days on Restricted DZs. Depending on their experience, DZs of smaller extent than that of an Unrestricted DZ may be used and full details are given in Section XXI (Parachuting Displays).

7. Airfields as DZs. Although Government and Licenced Airfields do not require Ministry of Aviation approval for use as DZs, many of them are unsuitable for routine parachuting. The proximity of hangars, workshops, administrative buildings, aircraft and car parks to the target will often rule them out, while large expanses of concrete or metalled runways, perimeter tracks etc., may also make them unsuitable for less experienced parachutists. The main criterion will be the extent of grassed area free of major hazards and their distance from the target area. Permission to use an airfield as a DZ must always be obtained from the owner or principal airfield authority and care taken to ensure that all other users are informed of the times when parachuting will be taking place. All reasonable precautions must be taken to ensure that parachutists and aircraft (including gliders) do not constitute a danger to each other.

8. Open Water and Deep Rivers. Parachutists who land in open water, even though they may be powerful swimmers run a considerable risk of drowning unless adequate precautions are taken. These include the presence of powered rescue craft manned by trained crews, and the wearing of life jackets or life preservers by all parachutists who are liable to land in water. For this reason, if open water (excluding minor rivers and small ponds) lies within 1,500 yards of the target all parachutists must wear inflatable life belts or carry life preservers ready for immediate use.

9. High Voltage Power Lines. There is no greater hazard to parachutists than aerial cables. No DZ should be approved for routine parachuting which has power lines running within 1,000 yards of the target. In cases where power lines run within less than 1500 yards of the target an aerial photograph must be available from which *all* parachutists must be briefed before take off. The number of Restricted Permit holders dropped on each pass must also be limited according to the conditions prevailing.

10. Trees. Although tree landings under European conditions rarely result in injury, trees on DZs are undesirable since they increase the risk of injury. Trees are normally acceptable within overshoot areas.

11. Air Photographs. All DZs used for routine parachuting should be equipped with an aerial photograph on which Major and Special Hazards are marked.

SECTION XIV—PARACHUTING LIMITATIONS.

1. **General.** Parachuting may only take place under the conditions outlined in Section I, Paragraph 1.
2. **Wind.** See Section XI.
3. **Visibility.** (Parachuting at Night)
 - (a) Sport Parachuting at night is prohibited unless special permission is previously granted by the Ministry of Aviation. Guidance to qualified parachutists is available from the BPA office.
4. **Cloud.**
 - (a) Parachutists will not intentionally drop or be dropped through cloud. They may not leave an aircraft if at the point of exit the whole of the ground between opening point and target is not clearly visible.
 - (b) No parachuting will take place when the cloud base is below 2,500 feet AGL.
5. **Opening Heights.**
 - (a) All static line descents will be from 2,500 feet AGL.
 - (b) "Jump and Pulls" will not be made below 2,200 feet.
 - (c) In all delayed opening descents canopies must be opened by 2,000 feet AGL except 'D' Certificate holders taking part in displays who may delay their opening so that their canopies have opened by 1,500 feet AGL.

- (d) Cutaways will only be performed in displays if the Manager of the display team gives permission. In clubs, persons wishing to perform cutaways will apply to the Safety and Training Committee for permission, together with a letter of recommendation from their Club CCI. Those performing cutaways must possess a 'D' licence and cutaway rig designed for the purpose approved by the Safety Committee.

6. Maximum Altitude.

- (a) The Ministry of Aviation restrict all sport parachutists to 12,000 feet ASL without oxygen.
- (b) The BPA require any Clubs and Members who wish to parachute above this height using oxygen to submit details of their proposed plans and equipment to the Technical Committee at least 4 weeks beforehand.

7. Restrictions following Periods of "Lay-off". General Permit Holders who have not made a descent for 6 months or more, and Restricted Permit Holders who have not made a descent for 2 months or more are restricted in the nature of their first descent when they resume parachuting. (See Section X Para 13.)

8. Water Jumps

Water jumps may only be made in the following conditions:

- (a) When there are adequate reception arrangements. Not less than two powered boats must be in position waiting for the parachutists.
- (b) When the weather is suitable and the wind within normal limits.
- (c) By specially briefed parachutists wearing parachute harnesses fitted with quick ejection fasteners and/or Capewells and life jackets or life preservers.

9. Health. Parachutists may not make a descent when they are ill, physically or mentally fatigued, or suffering from a cold in the head. (See Section IX).

10. Age Limits.

- (a) No one under the age of 17 may make a sport parachute descent.
- (b) Minors between the ages of 17 and 21 may only parachute with their parents' (or guardians') written consent. The form of consent must be kept by their Parachute Clubs.

11. Documents. All BPA members require certain valid documents before they may parachute. These are covered in Section XXIII.

SECTION XV—SAFETY IN THE AIRCRAFT

1. No person will approach the aircraft until it has stopped moving, and then will only do so when directed by an instructor. There will be no movement outside the aircraft forward of the wings.
2. The J/M appointed for each lift is responsible to the pilot for the safety of the parachutists in the aircraft and will recommend decisions concerning the dropping programme but the pilot is in overall command. (See also Section XVIII—Emergency Procedures.)
3. The Jumpmaster is responsible for the orderly emplanement of his lift and for their supervision and instruction as necessary in the aircraft. All parachutists are under his command until they leave the aircraft. His other duties are covered in Section III.
4. Before take-off all parachutists will fit their helmets and fasten safety belts if provided. Helmets may be temporarily removed after take-off if individuals wish to do so.
5. The dropping of the WDI and subsequent spotting will be carried out or supervised by the Jumpmaster.
6. S/L parachutists should be hooked or not on the ground at the discretion of the J/M. If not hooked up on the ground this procedure should be delayed until the aircraft is above 1,000 feet AGL.

SECTION XVI—SAFETY DURING FREE FALL

General.

1. In static line parachuting not more than three students may be dropped on any one run over the DZ, unless special dispensation has been given by the Safety and Training Committee in respect of specified DZs for a maximum of FOUR S/L parachutists to be dropped at one pass.
2. In delayed opening descents from 3,000 feet AGL or below, not more than four Restricted Permit Holders will be dropped on any one run over the DZ unless it is more than 750 yards long. One pupil per 150 yards of DZ is the recommended guide, bearing in mind the need to have a good safety margin at each end.

3. When control in free fall is lost by a parachutist who is unable to regain it he should operate his main parachute immediately, regardless of height. Such cases should subsequently be investigated by CCIs.
4. In free-fall parachuting the lower man always has the right of way over the higher, i.e. the responsibility for avoiding collision rests with the higher parachutist.

RELATIVE PARACHUTING.

5. All relative parachuting must be planned in detail before emplaning.
6. No parachutist may engage in relative parachuting until he/she has been classified as Category VIII. (See Appendix F.)
7. No relative parachuting may be carried out on descents made from below 5,000 feet AGL.
8. All relative parachuting in pairs must stop at or above 3,500 feet AGL. The signal for break-off between two parachutists may be given by either and should be acknowledged by the other.
9. No parachutist of Category VIII or IX may carry out relative parachuting within a group or with any parachutist classified below Category X.
10. Larger groups of parachutists engaged in relative parachuting must "break-off" in time for all to separate safely in different directions before they reach opening altitude.
11. Parachutists engaged in relative parachuting must be fully conscious of the dangers arising from mid-air collisions due to rapid closing. Instructors must lay particular stress on these dangers when teaching relative parachuting.
12. Parachutists who are preparing to pull, and suspect the presence of others above them, should give warning by making a pause in the pulling position, before operating their rip cords.
13. When parachutists engaged in group relative jumping are equipped with armed AODs they must be clearly identifiable in the air by the remainder. This will enable following parachutists to avoid the risks arising out of AOD premature activation by not positioning themselves directly over the top of a parachutist thus equipped.

A strip of fluorescent orange material attached to the back of the main parachute is recommended as the accepted BPA distinguishing mark for relative parachutists using AODs.

USE OF CAMERAS IN FREE FALL.

14. The use of cameras in free fall will be confined to Category X parachutists. When parachuting as members of a BPA affiliated Club or Centre their equipment, and particularly the manner of its attachment to body or helmet, should be carefully examined by an Advanced Instructor to ensure that it is capable of withstanding the stresses of parachute openings at terminal velocity.

15. USE OF SUPPLEMENTARY MAIN PARACHUTES BY CUTAWAY. The use of supplementary main parachutes by "cutaway" will be permitted under suitable conditions by:

"cutaway" will be permitted under suitable conditions by:

- (a) Regular members of recognised display teams;
- (b) D Licence holders, recommended by Club CIs using "cutaway" equipment specially designed for the purpose.

SECTION XVII—SAFETY DURING PARACHUTE DESCENTS

1. After operating the main parachute all parachutists will look upwards and check that their canopy has developed normally. If a malfunction has occurred the reserve parachute may have to be brought into use. The correct way of doing this will be taught during initial ground training.

2. After the canopy has been checked parachutists will look 360° around them on their own level, then below, and finally upwards. If any other parachutist is in close proximity immediate avoiding action will be taken.

3. Throughout every descent all parachutists will keep well separated from each other. Care will always be taken to avoid getting immediately above another parachutist since this can lead to entanglements and the collapse of canopies. The low man always has the right of way.

4. When two parachutists approach the same target or landing area simultaneously the high man must give way to the low man. If both are at the same altitude the choice will lie between one or other giving way, or either or both being injured. Common sense should prevail.

5. All Restricted Permit holders must land into wind until such time as their CCI allows them to do otherwise.
6. Restricted Permit holders are forbidden to attempt stand-up or competition landings.

SECTION XVIII—EMERGENCY PROCEDURES

1. If it is practicable for him to do so, the pilot will take command in any emergency and it is the Jumpmaster's duty to accept his instructions.
2. If the pilot is powerless to influence an emergency confronting parachutists it is the J/M's duty to use his own discretion and act accordingly.
3. If an aircraft gets into difficulties after take-off it is normally safer for parachutists to remain in it than to attempt to jump from less than 400 feet.
4. If an aircraft gets into difficulties above 400 feet parachutists should only leave it with the consent of the pilot; he may be quite confident of making a safe landing. At low altitudes the reserve parachute should be used in preference to the main.
5. If passenger harnesses are fitted to an aircraft which is prepared for parachuting and it is possible for parachutists to make use of them, they will be used for take-offs (and landings if applicable) under instructions of the J/M.
6. When flying over the sea or parachuting within 1,500 yards of open water parachutists must wear inflatable life belts or carry life preservers ready for immediate use.
7. Adequate firefighting appliances must be available on all airstrips from which parachuting aircraft are operating.
8. In the event of a parachute becoming inadvertently opened in an aircraft, immediate action will be taken if possible to prevent the canopy from taking air. The parachutist will be moved as far from the door as possible and will be assisted as necessary. Under no circumstances will any effort be made to re-pack the parachute in the aircraft nor will the parachutist be permitted to jump. The J/M will land in the aircraft with

the parachutist in question. He may permit the remaining parachutists to jump with the permission of the pilot whose attention must be drawn to the incident as soon as it occurs.

9. (a) In the event of a parachutist becoming hung-up outside an aircraft he should be pulled back inside if possible. If this is not possible he should be cut free unless it is suspected that he is unconscious. If a parachutist should be thought incapable of activating either of his parachutes after being cut free it may be possible for another parachutist to assist him in this respect. In the last resort the pilot must decide on the action to be taken. All parachutists must be instructed that in the highly unlikely event of them becoming hung up they should signify their readiness to be cut free by placing one or both hands on their helmet. Under no circumstances should a parachutist in this situation activate either of his parachutes until he is no longer attached to the aircraft.
- (b) All Jumpmasters should carry a knife for use in emergency.

SECTION XIX—MALFUNCTIONS

1. When a parachute fails to deploy in the manner intended, its complete or partial failure is termed a malfunction. Occasionally malfunctions occur for no apparent reason and even experts may disagree as to their cause. But whether or not the cause is clear at the time it is of great importance that all available details should be recorded and forwarded to the BPA for study by the Safety and Training Committee. Only by this means can they be analysed and the fullest lessons learned from them.

2. Malfunctions may be due to a wide variety of causes including:
 - (a) Bad packing.
 - (b) Badly designed deployment sleeves.
 - (c) Unsound canopy modifications.
 - (d) Bad body positions on opening.
 - (e) Freak canopy developments.

3. A serious, and by no means unknown, category of malfunction is that resulting from packing parachutes in such a way that they cannot open. Pack opening bands which have been incorrectly hooked up, and temporary packing pins which have been left in cones are two examples. These and others should obviously never happen.

but if they do they should be spotted during the pre-jump equipment check. The only approved types of temporary packing pin are a ripcord complete with handle or a set of 3 or more pins tied together with nylon cord to which a red tag is attached.

4. All malfunctions should be noted in a special register, and any parachute which comes under suspicion due to its incurring unexplained malfunctions should be immediately withdrawn from use for expert examination.

5. Parachutists who sustain more than a very occasional malfunction should be given attention by Club CIs who should not hesitate, if they think fit, to suspend them from parachuting in their own interests. Such cases should be immediately reported to the BPA.

6. Every Club, School and Centre is required to make an annual return by 31 December summarising their parachute malfunctions and injuries sustained during the season.

SECTION XX—PARACHUTING ACCIDENTS

1. Parachuting accidents occur due to a variety of causes most of which may be grouped under three broad headings:

- (a) Faulty instruction and supervision.
- (b) The human factor.
- (c) Equipment failures.

2. **Faulty Instruction and Supervision.** In one sense these are the most serious, since they are virtually all avoidable. They include:

- (a) Over-hasty progression of parachutists under instruction.
- (b) Disregard of weather conditions.
- (c) Incompetent spotting.

3. **The Human Factor.** This is the most complex category and there is much yet to learn about the unexplained accidents. Many of them, however, are caused by unsuitable individuals being allowed to parachute—often after they have fully demonstrated their unsuitability. Causes include:

- (a) Over confidence.
- (b) Lack of concentration.

- (c) Impaired mental or physical condition, often due to fatigue.
- (d) Unexplained "failures to pull".

4. Equipment Failure. This is the least common cause of parachuting accidents. Where it is met, however, it may be due to:

- (a) Normal wear and tear which has not been spotted in time, due to lack of maintenance or inspection.
- (b) Unskilled modifications.
- (c) Incorrect assembly.
- (d) Incorrect fitting.
- (e) Freak deployments.
- (f) Unexplained failure to open (extremely rare).

It should be noted that of these six causes four are primarily due to human error.

5. Investigation of Accidents.

- (a) Fatal accidents involving BPA members or members of Affiliated Clubs will normally be investigated under BPA arrangements. In the case of Servicemen parachuting on duty or on Ministry of Defence property, a Board of Inquiry is normally held and in these circumstances a BPA Inquiry will not be set up.
- (b) Non-fatal accidents, other than normal landing injuries, will be investigated under Club arrangements unless special factors make a BPA inquiry desirable. Accident reports should be submitted to the BPA office as soon as possible after the accident.

6. Immediate Action to be taken following a Fatal Accident. This is covered in a separate instruction, copies of which should be held in all clubs. They are available on demand from the BPA.

7. Form of Accident Investigation Report. The BPA approved form of accident report (non-fatal) is attached at Appendix I.

8. Annual Return of Accidents and Injuries. All BPA Affiliated Clubs, Centres, Schools and Associations are required to submit to the BPA office annually as soon after 1 January as possible, a summary of accidents and injuries sustained by their members during the preceding 12 months. This is of great importance for statistical purposes. (See Section XXV – Reports)

SECTION XXI—PARACHUTING DISPLAYS

General

1. All display parachutists and particularly Instructors and Jumpmasters who accept the responsibility for giving parachuting displays must take into account the risks and possible consequences of displays which misfire. Sound judgement should NEVER be influenced by the desire not to disappoint the organisers and the public. Injuries sustained in public and parachutists who land outside the arena have an adverse effect on responsible opinion since they usually result from incompetence or jumping in unsuitable conditions.

2. Display parachuting calls for the highest standards of planning, co-ordination, experience, mutual confidence, safety-consciousness and parachuting skill. For these reasons parachutists who can not be relied upon to do what is expected of them should not be permitted to take part in displays.

3. Safety Planning.

(a) Display DZs must be visited and reconnoitred at least several weeks before a display is due to be given. Existing and anticipated hazards must be plotted and particular care taken to establish the extent of car parks, since these represent major hazards.

(b) The direction of the wind may play an important part and it may be necessary to make several different plans which will involve accepting winds of differing strengths depending on the direction from which they are blowing.

(c) Parachutists are not permitted to leave an aircraft over crowds or buildings. This should be taken into account in the planning of displays.

4. **Approval of Displays.** Full details of proposed displays (other than on Government or Licensed Airfields, together with an accurate map or plan showing the display arena, including anticipated hazards, should be sent, not less than 2 weeks before the date of the display, to the Ministry of Aviation for their approval. A list of the parachutists who will take part and the name of the Instructor or Jumpmaster in charge will also be included. The qualifications of all participants will be included.

5. **Ground Control and Parachuting Safety.** All the procedures and safety standards which are applied to routine club parachuting will apply also to display parachuting, with the exception of the acceptance of RESTRICTED DZs in conjunction with the skill and experience of the parachutists taking part (see para 6 below).

6. RESTRICTED DZs.

- (a) Parachutists with not fewer than 200 Free Fall descents may give displays using DZs of not less than 75 yards diameter, which are free of major hazards and providing not more than 10% of this area is taken up with minor hazards (see Section XIII). In all such cases, however, adequate overshoot areas must exist on all sides.
- (b) 'C' Licence holders with not less than 100 descents may give demonstrations onto DZs of not less than 150 yards diameter providing that:
 - (1) They are approved for such demonstrations onto Restricted DZs by their Club CIs.
 - (2) They are approved for each such demonstration by an Instructor with knowledge of their ability as demonstration parachutists and of the DZ in question.
 - (3) The aircraft is carrying a Jumpmaster who is a BPA Instructor holding a 'D' Certificate.
 - (4) There are adequate overshoot areas on at least three sides of the DZ.

7. **Reports.** Full reports of all demonstrations which have *NOT* gone according to plan must be submitted to the BPA giving all relevant details within 7 days.

8. **Annual Returns.** All Clubs, Centres, Schools and Associations who give public parachuting demonstrations in the United Kingdom are required to submit an Annual Return as at 31st December to the BPA giving the following information concerning *ALL* their demonstrations during the year:

- (a) Dates.
- (b) Places.
- (c) Number of displays per day.
- (d) Number of parachutists participating.
- (e) Diameter of DZs.
- (f) Results.

SECTION XXII—COMPETITIONS

1. Competitive parachuting adds a fresh element to routine club parachuting and introduces a possible cause of distraction for the novice. It should not be undertaken by parachutists until they have shown themselves to be completely assured and dependable under normal conditions. If this is not the case there is a danger that the competition will adversely affect the judgement and performance of less experienced performers with adverse effects on Safety Standards.

2. Restricted Permit holders and those with fewer than 50 free fall descents will not be permitted to enter any type of Parachute Competition.
3. BPA sponsored competitions will, unless otherwise stated, only be open to 'C' and 'D' Certificate holders.
4. The director and stewards appointed in all competitions have full BPA authority to suspend any competitor from further participation during the remainder of a meeting for violation of Parachuting Regulations or any reason which makes this course advisable in their own interests.

SECTION XXIII—PERSONAL DOCUMENTS

- 1. CLUB RESPONSIBILITY.** CCIs are responsible for ensuring that all parachutists jumping on their DZs and taking part in displays under Club etc. arrangements are in possession of a valid Ministry of Aviation General or Restricted Permit.
2. Clubs are responsible for ensuring that the personal documents of all Restricted Permit Holders, parachuting under their supervision, are valid and up to date at all times.
- 3. General Permit Holders' Responsibility.** General Permit Holders are responsible for maintaining their personal documents (as covered in Paragraph 6 below.) and ensuring that they are valid and up to date at all times.
- 4. Pilots Responsibility.** All pilots dropping sport parachutists must satisfy themselves that every one holds a valid Ministry of Aviation Restricted or General Permit to parachute.
- 5. Competition Organisers' Responsibility.** Clubs etc. organising competitions must ensure that all participants are holders of valid Ministry of Aviation Permits to parachute. This includes visitors from overseas.
- 6. Documents relating to Individuals.**
 - (a) *Ministry of Aviation Permits to Parachute.*
 - (1) All sport parachutists who parachute in the United Kingdom require a valid Ministry of Aviation General or Restricted Permit. These are to be renewed annually. Applications must include:

- i Full Christian names
 - ii Home address (Not Service address)
 - iii Parental consent in writing if under 21 (but over 17)
- (2) Restricted Permits must bear the names of ALL instructors who will be concerned in the training of their holders.
- (b) *Medical Certificate.* All BPA members must hold a valid Medical Certificate certifying their fitness to parachute. These must be renewed every two years. They should be inspected periodically by Clubs but should be kept in the possession of individuals. The BPA form of Medical Certificate is attached at Appendix 'G', a reproduction of which is included in the BPA Parachutists' Documents Folder (obtainable from the BPA office).
 - (c) *Third Party Insurance.* All paid up BPA members are automatically covered under the Association's Third Party Insurance Policy.
 - (d) *Parental Letters of Consent.* All BPA members between the ages of 17 and 21 must obtain a letter of consent from their parents or guardians before they are permitted to parachute. This should normally be held by their parent club except when it is required for production at other DZs.
 - (e) *Form of Indemnity.* All BPA members are required to sign a Form of Indemnity and return it to the BPA office before they may make a parachute descent.
 - (f) *Parachutists' Log Books.* All parachutists must keep a personal log book recording details of all their sport parachute descents. Military static-line descents will not be included.
 - (g) *Parachute Record Cards.* All parachutists will maintain a record card for each of their personal parachutes. These cards will record every packing repair and modification to the parachutes to which they relate.
 - (h) *FAI Competitors Certificates.* These are issued by the Royal Aero Club and must be held by all competitors in International Competitions.
 - (j) *Royal Aero Club Parachutists Licence.* This necessary for all parachutists competing in all National and International Competitions.
 - (k) *Packing Certificates.* All parachutists must hold a packing certificate before they are permitted to pack a parachute without supervision.

SECTION XXIV—CLUB RECORDS

General.

1. Club Records can be broadly divided into the following categories:-
 - (a) Relating to Individuals.
 - (b) Relating to Equipment.
 - (c) Relating to Aircraft (where applicable).
 - (d) Relating to Parachuting Records.
 - (e) Relating to General Club Business (including Indemnities).
2. The BPA acknowledges that many clubs have evolved their own systems for ensuring that documents are maintained for all essential purposes and it is willing for them to continue, providing they match the standards required. Generally speaking Clubs are responsible for maintaining all documents required within the five categories enumerated in Paragraph 1 above. These are explained in greater detail in the following paragraphs. There will almost certainly be other records which Clubs will wish to keep for their own purposes.
3. **Clubs Responsibility for Individual Documents.** See Paragraphs 1 and 2 of Section XXIII (Personal Documents).
4. **Equipment Documents.** All Club parachutes must have up to date Parachute Record Cards. The BPA Parachute Record Card is recommended for this purpose. All packings, repairs and modifications will be recorded for each parachute.
5. **Aircraft Documents.** Clubs which own their own aircraft are responsible for ensuring that all Ministry of Aviation instructions relating to aircraft records, documentation and insurance are complied with.
6. **Parachuting Records.**
 - (a) Every descent made under the supervision of a Club, whether by their own members or visiting parachutists, should be recorded on a suitable register or record sheet which may be the Manifest sheet providing it contains the following relevant particulars:-

1. Date.
2. Parachutist's name.
3. Pilot's name.
4. Aircraft number and type and altitude of descents.
 - (b) When parachuting is in progress a *Manifest Sheet* will be completed for record purposes before each lift takes off. One copy may be given to the J/M but the original must remain on the ground.

SECTION XXV—REPORTS

The following reports will be made by all Clubs and Centres:-

1. Annual Parachuting Return.

- (a) This will show the number of parachute descents made on each DZ used by the Club including demonstration jumps at other locations. It will NOT include descents made by Club Members under the supervision of other Clubs and Centres.
- (b) It will also summarise injuries sustained by members and visiting parachutists. These will be categorised as follows:-
 - (i) Fatal.
 - (ii) Severe (detained in hospital for 2 weeks or more).
 - (iii) Medium (admitted to hospital or rendered unfit for parachuting for at least 3 weeks).
 - (iv) Slight (unfit for parachuting for any period less than three weeks).
- (c) The Annual Return will also summarise parachute malfunctions by types and state the number of occasions on which reserve parachutes have been deployed intentionally and unintentionally.
- (d) It is recommended that the appropriate BPA Form is used for this report which is required to be submitted to the BPA office made out as at 31 December.

2. Malfunction Reports. Whenever a parachute malfunctions due to any unknown or unusual cause, a full report will be submitted without delay giving as much information as possible together with any remarks and recommendations by the Instructor. These reports will be studied by the Technical sub-Committee who will recommend any action they think fit to the Council.

3. Accident Reports

- (a) In addition to the annual return referred to in Paragraph 1 above, Clubs and General Permit holders parachuting independently are required to submit an accident report in respect of all parachuting accidents, other than routine landing injuries, sustained on DZs. (See Section XX para 5 and Appendix 'I')

SECTION XXVI – DISCIPLINE

1. A CCI may suspend any member of his Club, School or Centre, from parachuting under his supervision permanently or for a specified time for any breach of BPA Regulations. He may also withdraw the privileges of other parachutists using his Club DZ or facilities, for the same offence.

2. A CCI who has reason for recommending the temporary or permanent suspension of any parachutist from *all* parachuting should state his case in writing to the BPA Council. The Council will then decide on its course of action in the light of the circumstances. Parachutists whom the Council believes should be suspended will always be given the right of appeal but may be grounded until this has been heard.

3. The BPA Council may suspend any member from parachuting, and any instructor from instructing on grounds of safety for any period it thinks fit. Such decisions will be notified to the Ministry of Aviation and all approved BPA instructors. A right of appeal will be granted under the same conditions as those in paragraph 2 above.

4. **Low Openings.** All BPA instructors are authorised to ground any parachutist who has made a low opening without good reason, pending further investigation.

5. All BPA Instructors are expected to intervene whenever they observe a violation of Safety Regulations or an unsafe practice and bring it to the notice of the CCI.