

B.M.I.S.S.

AERIAL APPLICATIONS MANUAL

Issue 3 MAY 1987

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'Bearly Made It Sky Dive Squad'

OPERATIONS MANUAL

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PREAMBLE

The specifications and rules within this Manual are the required minimum levels to be observed by all Members, Attendants and the Recovery Crew during every Aerial Operation involving members of the B.M.I.S.S., whether operating in the display, practice or trial modes.

All Rules, Regulations, Laws and Bylaws currently in effect and appertaining to the use of the area described as the Flight Operations Area shall, together with any amendments, be strictly complied with. It shall be the responsibility of each Attendant to be fully aware of such Rules, Regulations, Laws and Bylaws and Amendments.

Notwithstanding the contents of this Manual, it shall be the sole duty of each Attendant to ensure that all activities of the B.M.I.S.S. shall be conducted in a safe and responsible manner with due regard for the safety of persons and property.

A copy of this manual shall be made available to all Attendants and such officers of Her Britannic Majesty's Armed Forces, Officials of the Civil Aviation Authority, or Police Force as may make an application in writing for a copy.

This Manual is issued by :-

The Co-ordinator

BRIGHTON KITE FLYERS

for and on behalf of

'The Bearly Made It Skydive Squad'

All enquiries should be addressed to:-

B.K.F. Co-ordinator
'Spindrif'
6 Hartfield Road
Saltdean
East Sussex
BN2 8RE

DEFINITIONS

Member	an object shaped to represent a type of fauna (e.g. Ursa Edwardius) equipped with harness, rigging and a parachute to enable it to make safe parachute descents.
Attendant	A person who, by the act of creating a Member, becomes the means by which the Member participates in the sport.
Recovery Crew	A person delegated, by an Attendant, to recover a Member on completing its descent.
Flight Operations Area	an area within which all the necessary operations to effect a Member's parachute descent shall take place.
Safety Zone	an area within which the Member may descend if the parachute should fail to deploy correctly.
Drop Zone	an area within which a Member may descend with a fully functional parachute.
Lift Rig	the equipment which comprises the anchor point, cable, release units and kite(s), used to place one or more Members at sufficient height above the ground to allow them to make a safe parachute descent.
Release Unit	the equipment that will initiate the Member's parachute descent.
Lift Line	The line or cable which tethers the aerodyne to the earth and to which is secured the Release Unit.
Drop Line	the line which (if used) controls the release of Member(s) from the Lift Line / Release Unit.
Anchor Point	an object that is securely attached to the earth to which the Lift Line is attached.

cont.

cont.

- Harness** the assembly by which the rigging lines are securely attached to the member's body.
- Rigging Lines** those lines/cables by which the parachute canopy is securely attached to the harness.
- Canopy** a flexible surface by which the Member's descent to earth is controlled so as to permit a gentle landing.

SPECIFICATIONS

1. MEMBER

- a) shall be any soft toy in the shape of a species of fauna (e.g. Ursa Edwardius).
- b) shall not weigh more than 5kg complete with Harness Pack, Rigging Lines, Canopy, Static Line, controls (if any), clothing and safety gear.
- c) shall not have any object or projection capable of inflicting a puncture upon contact with a person or object.
- d) shall have an Attendant.
- e) shall be registered as a member of B.M.I.S.S.

2. ATTENDANT

- a) shall be any person creating a Member and operating within the Rules and specifications laid down in this Manual.
- b) shall be a member of the Brighton Kite Flyers.
- c) shall comply with Articles 40(1); 47; 48; 52; 64 (2); 70 (1a,1d) and 80 (1a,1b) of The Air Navigation Order 1985.

3. RECOVERY CREW

- a) shall be a person designated by an Attendant to recover a Member upon landing.
- b) shall conform to Specification 2(c) of this Manual.

4. FLIGHT OPERATIONS AREA

- a) shall be that area within which the operation of the Aerodyne, Lift Rig, Release Unit and Member(s) shall have either direct or indirect effect.

cont.

For Specifications 4 to 6 (inclusive) see also Appendix A.

cont.

- b) shall be clear of all overhead wires or cables.
- c) shall have upon it no building or structure higher than 2 metres.
- d) shall be used only with the permission of the owner of the land or, in the case of multiple events, the permission of the overall organiser responsible for such events taking place upon the said land.
- e) shall, if the Aerodyne is to fly at a height above 60 metres, be within an area for which permission to fly above 60 metres has been granted by the Civil Aviation Authority.
- f) shall have a perimeter no nearer than 20 metres to a public highway.
- g) shall be of sufficient size to comply with the Regulations laid down in this Manual.

5. SAFETY ZONE

- a) shall be an area 10 metres in diameter whose centre is directly below the Release Unit.
- b) shall be kept clear of all persons or damageable objects while Members are attached to the Release Unit.

6. DROP ZONE

- a) shall be that area covered by a 30° arc, the apex of which is the upwind extremity of the Safety Zone, of a radius of not less than 100 metres.
- b) shall be monitored by the Recovery Crew to ensure that Member's descents do not infringe Article 40 (1) of the Air Navigation Order 1985.

7. LIFT RIG

- a) shall be an assembly comprising an Anchor Point, Lift Line, Release Unit, and Aerodyne together with such methods of activating the Release Unit as shall be practicable and safe.
- b) so be so constructed as to be stable and safe.
- c) shall be operated within windspeed parameters that comply with the Rules, Regulations and Safety Aspects either stated or implied.

8. ANCHOR POINT

- a) shall be so constructed that it shall withstand at least twice the tension forces upon it that may be reasonably expected in the event of a twofold increase in wind-speed.
- b) the stresses upon the Anchor Point shall be deemed to be the sum of the wind forces upon the Lift Line, Members, Release Unit and Aerodyne.

cont.

cont.

9. LIFT LINE

- a) shall comply with Paragraph 8.

10. RELEASE UNIT

- a) shall be so constructed as to be able to be securely attached to the Lift Line.
- b) shall not be capable of movement along the Lift Line.
- c) shall have no attachments or appendages capable of becoming detached and falling to earth.
- d) shall have sufficient static line attachment points securely affixed to it.
- e) shall securely retain the full complement of Members for which it is designed when such Member's weight is at a maximum.
- f) shall have a positive and safe release mechanism.
- g) where Radio Frequency waves are used to control either the Release Unit or the Member's apparatus, then the Attendant must hold the relevant Transmission Licences and authority to operate the equipment.
- h) Radio Controlled equipment must, in the event of interference from other Radio Frequencies, fail to safe.
- i) If such equipment is used for freefall mode then the area defined in Para 5 (b) shall be not less than 25 metres in diameter and the area defined in Para 6 shall be not less than 300 metres and shall comply with Para 5 (b).

See also Appendix B.

11. CANOPY

- a) shall be of a design which, when fully deployed, shall permit the Member to drop (in still air) at a speed not exceeding 5 metres per second; nor less than 1.5 metres per second.
- b) shall be an integral unit complete with rigging lines, Primary Risers and any deployment aid (i.e. spring or drogue parachute).
- c) shall be so constructed as to withstand at least twice the expected deployment forces.

12. PRIMARY RISERS

- a) Where two-part Risers or Capwell-type Quick Release Fasteners are fitted, the Primary Risers must be integral with the rigging lines (or shrouds and canopy).
- b) where two-part Risers are used, the method of securing both sections shall incorporate a safety pin or clip.

cont.

13. HARNESS

- a) shall be securely attached to the Member.
- b) where removable, shall incorporate within the release or opening mechanism, a safety pin or clip.
- c) shall have securely attached a container bag or pack for the canopy and (where used) a canopy static line bag.
- d) shall be securely attached to the Primary (if one-part) or Secondary (if two-part) Risers.

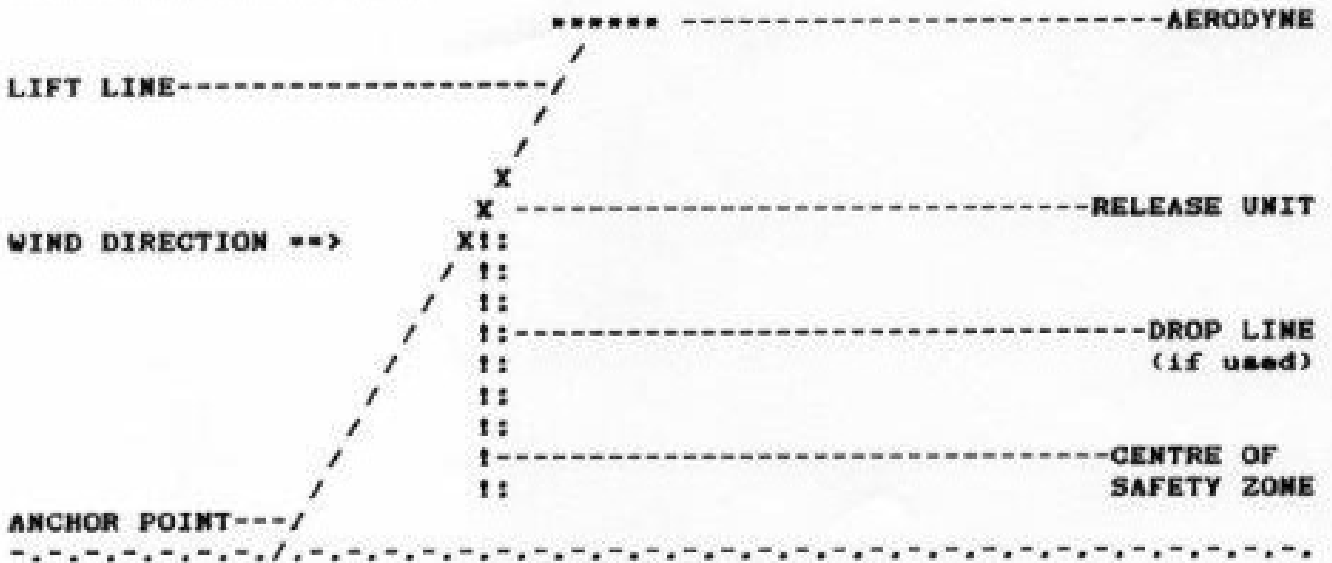
For Paragraphs 11 to 13 (inclusive) see also Appendix C.

14. INCIDENTS

- a) it shall be the duty of each and every Attendant to report to the B.K.F. Co-ordinator all incidents, involving their Member(s), which involve damage to people or property or complaints in regard to B.M.I.S.S. operations.
- b) such reports shall be made within 10 working days using the accompanying Report Form.

APPENDIX A

FLIGHT OPERATIONS AREA



ELEVATION.



**PUBLIC
HIGHWAY**

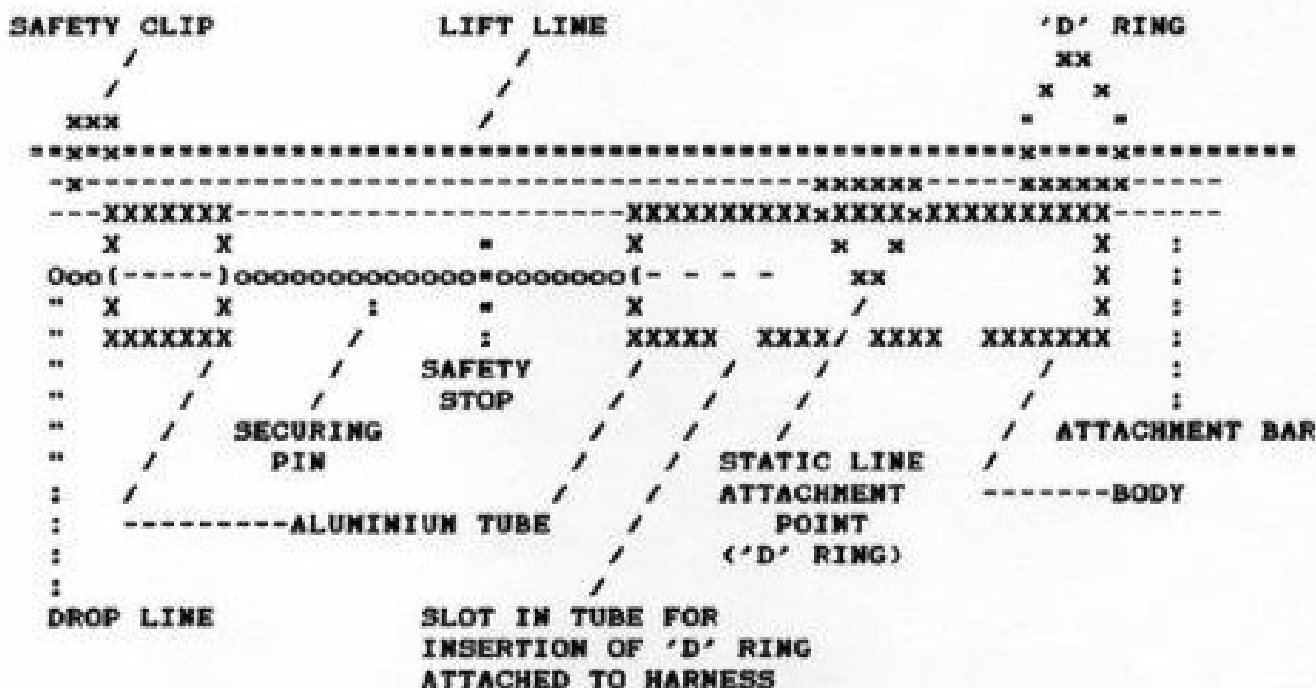
**20 metres
minimum**

SAFETY ZONE

PLAN.

APPENDIX B

SUGGESTED MANUALLY OPERATED RELEASE UNIT.



NOTES

- 1.) The Safety Stop and Rear Tube MUST prevent the Securing Pin from being withdrawn completely and falling to earth.
- 2.) The Attachment Bar must be securely fixed to the Body and the Static Line Attachment Point(s).
- 3.) Any use of Radio Control Equipment must be covered by Home Office Regulations.

APPENDIX C

Canopy - Harness (General)

INCIDENT REPORT FORM

Name of Person making Report. DATE
and

Address

Date of Incident Grid Ref of Incident Location

OS Map Number Nearest Town

Description of Site

Type of Aerodyne Wingspanmetres. WeightKg

Altitude of Aerodynefeet AGL. Altitude of Release Unit ft

Name of Member(s)..... Weight(s)Kg

Description of Damage/Injury

Name of Injured/Person to whom damaged property belongs
and

Address

Name of Witness(s)
and

Address(es).....

If Police/Ambulance/Fire Brigade involved then give Names and Numbers

WindspeedKts. Visibility (Horizontal)Km.Cloud Cover /8

Visibility (Vertically to Cloud Base)Km. Rain Y/N Snow Y/N

Describe Incident and supply sketch map of area showing all salient details.

AMENDMENTS and HISTORY.

Issue 1 - June 1984

Amendment 1 Specifications Para 11a
& m/s reduced to 5 m/s
Amendment 2 Specifications Para 12a
Cokevell replaced by Copwell

Issue 2 - March 1987

Addition Specifications Para 10g
Addition Specifications Para 10h
Addition Specifications Para 10i
Addition Specifications Para 14
Addition Incident Report Form
Addition Member's Registration Form
Amendment Due to A.N.O. 1985

Issue 3 - May 1987

Spelling and Layout amended.

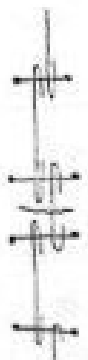
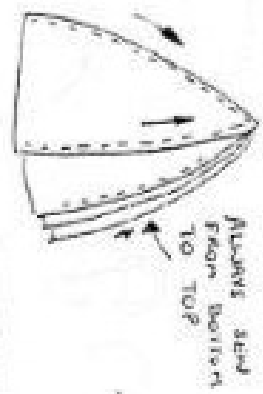
INSTRUCTIONS

(1) FIRST SELECT YOUR TEDDY BEAR FIND THE RIGHT CHUTE FOR THE WEIGHT.

(2) MAKE CARD TEMPLATES OF THE CHORD SIZE YOU NEED AND HOT CUT (WITH A SOLDERING IRON) THE NUMBER YOU REQUIRE



(3) SEWING - (USE 8 STITCHES PER INCH)

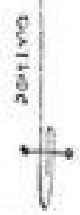


HEM AS THIS

(4) BOTTOM HEM



SEW IN SQUARES ONE AN EACH SEW



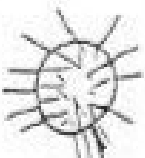
LOOPS - LAYERS OF FABRIC OR TUBE

(5) TOP HOLE - DON'T WORRY EVEN THE BEST SEWERS END UP WITH A RAGGED HOLE!



THERE ARE TWO WAYS TO DO IT WITH IT -

S-1 FIND A GLASS OR JAR AND POSITION OVER HOLE AND HOT CUT ROUND EDGE
S-2 PUSH CONTACT PIN, CARD TUBE THROUGH HOLE AND HOT CUT

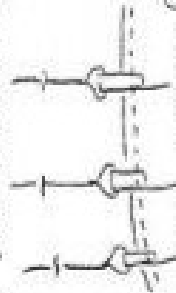


HOT CUT CIRCULAR

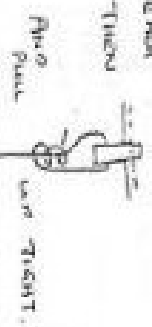
FINISH OFF - SEW A DOUBLE CIRCLE OF STITCHES ROUND HOLE



(6) SPREAD LINES -



USE A DETAILED INSET ONE FOR A QUARTER WAY - THE SPREAD LINE THIN AND PULL



LENGTH 1-1.5 IN

IF IT LOOKS RIGHT IT IS RIGHT.

USE FINE DETAILED LINE

SPLIT SPREAD LINES INTO 2 HALVES AND CHECK ALL YOUR LENGTH.

(7a) TIE LINES IN ORDER TO A RING USING TECHNIQUE IN (6)

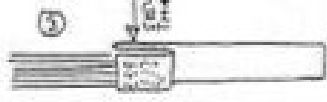
(7b) GLUE AND SEW. 10-12" OF TAPE



TRY TO USE A SOLID RING SAIL RINGS TEND TO SNAG.



YOUR CHUTE IS NOW READY

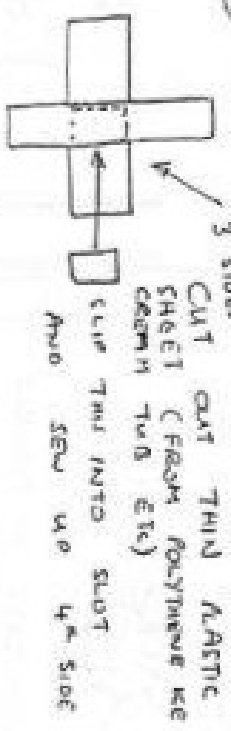


PARACHUTE PACK YOU'LL NEED TO MAKE: EQUIPMENT HOOD!

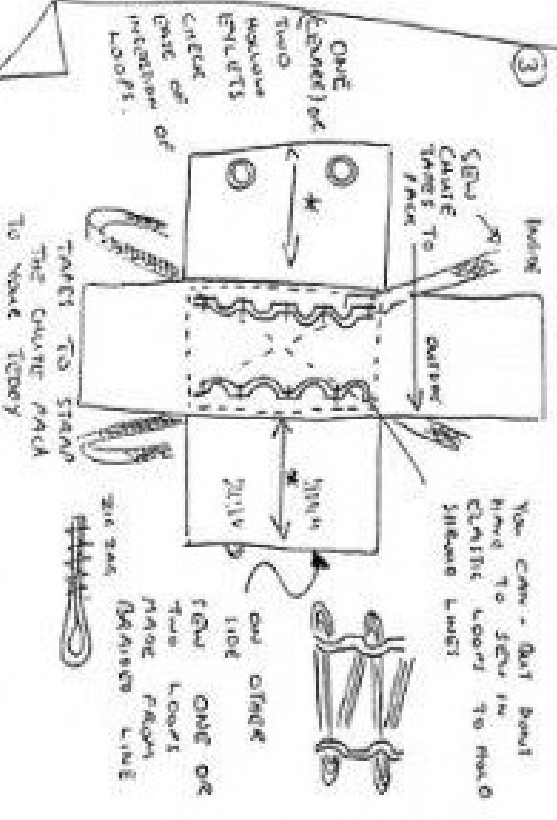
① CUT 2 STRIPS OF HEAVY NYLON OR DOUBLE LAYERS OF RIPSTOP AND HEW THEM



② LAY OUT AND SEW AS THIS



WHAT HAPPENS NEXT IS UP TO YOUR PERSONAL PREFERENCE - FACILITY - EQUIPMENT!

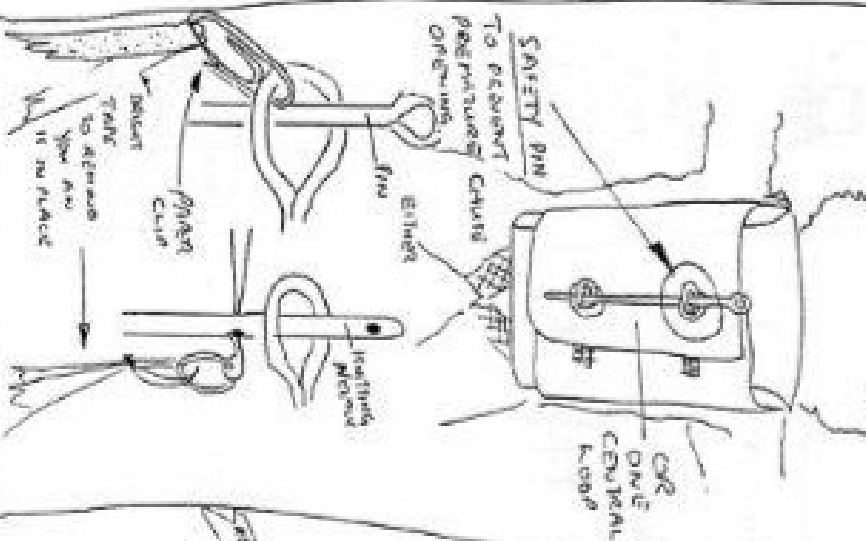


④ YOU'LL NEED A PIN TO HOLD THE PACK CLOSED - USE WIRE PEARL CHUTE HOOKER OR DIAL THROUGH IT AND ONE HOLEY NEEDLE

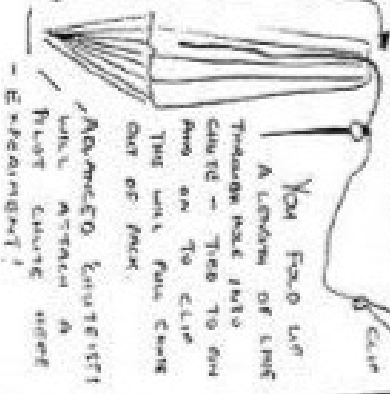


⑤ STEP ON YOUR PACK AND SLO UP CHUTE BY LEAVING THROUGH ELASTIC (I COULDN'T BUY 'COT IN BIG CHUTE) OF LAYER LINES NUMBER CHUTE PLUG DOWN AND UP PANEL AND CHUTE

CHUTE WITH PIN TO LOCK - LIVE THIS SEE NO 6 TO SEE HOW TO ATTACH STABILIZER



STATIC LINE



⑦ DROPPING LOOP

FINN JOG IS TO ATTACH A RING LOOP TO CHUTE PACK - OR BETTER STILL TO HERO OF TEDDY BURN

