

Appendix E

Safety Guidelines for Air-Based Adventure Activities

ANNEXURE D - AIR-BASED ACTIVITIES

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Safety Guidelines for Paragliding

Paragliding has developed significantly in Maharashtra, in India & throughout the world over the past three decades. It has developed into a mature Aerosport over the years & can be compared to any other form of sport aviation.

Since more & more people are taking interest in the sport the need for quality training & more attention to safety has become a necessity.

We are recommending the FAI's (Federation of Aeronautique International) Safe Pro program that is designed to be seen as a guide for Associations, Schools, Organizations & Clubs worldwide to develop their own training programs.

The Fédération Aéronautique Internationale, FAI - The World Air Sports Federation, was founded in 1905. It is a non-governmental and non-profit making international organization with the basic aim of furthering aeronautical and astronautical activities worldwide, ratifying world and continental records and coordinating the organization of international competitions. It is recognized by the International Olympic Committee (IOC). After a century of steady growth, FAI is now an organisation of more than 100 member countries including India, forming a strong network linking all those who participate in air sports worldwide.

FAI recommends the SAFEPRO PARA program which is a Paragliding safety & training program created along with USHPA, FFVL, APPI and BHPA. This program assists the participants to progress safely and become true airmen.

The main Stakeholders in Maharashtra have been using APPI & BHPA systems for last 10 years successfully.

Please visit FAI Website https://www.fai.org/sites/default/files/civil/documents/safepro_para_2020.pdf to access FAI's CIVL SafePro Para, Recommended Safety Proficiency Standards for Paragliding, 2020 Edition Effective 1st May 2020.

Paragliding Schools / Organization

No organization / school is obliged to follow a particular Rating system and they are free choose the education and rating system best suited to them. Top Paragliding organizations / schools in India have been known to follow APPI & BHPA education & rating systems.

The SafePro Para program should be seen as a guide for federations wanting to develop their own program. Until such time that India develops its own homegrown licensing system approved by the DGCA, MAC recommends that FAI SafePro Para program be followed by all schools & organisations. The Chief Instructors of all such institutes must hold a valid Instructor License or valid certification from any recognized or accredited organizations.

A Flying School / Organization

- Registered centre which provides training from basic level to beyond, provided it has a Licensed Instructor from accredited association.
- Have at least one qualified Instructor & one qualified assistant instructor. The flying school cannot operate with only one qualified Instructor.
- The chief flying instructor (CFI) and his team of senior instructors provide tuitions within registered schools for beginner and qualified members. Instructors may also hold any speciality Certification like Cross country flying, SIV & Acro.

Flying School / Organization - Recommended Documents

- Daily Flight Records
- Student Training & Flight Records
- Equipment inventory & usage log (Yearly porosity & line length checks)
- Registration, permits and letters of agreement as necessary
- Instructor / Tandem Pilots Team Flying Records
- Incident/Accident Reports

Inspection & Audit

There should be an internal Inspection Committee & Auditing committee that can monitor defined standards in the organization. Periodic inspection & auditing must be carried and written records must be maintained for reference.

There should be an Inspection Committee & Auditing committee that can monitor standards in the organization and this is achieved through a thorough inspection & auditing criteria.

Every effort should be made to visit each Organization every year or so, as team of appointed professionals who act as Inspectors & external auditors.

At the conclusion of the Inspection, the CFI must be debriefed on the results.

A written report should be drafted & recorded and a copy provided for the CFI.

Training Facilities in Schools

A Classroom - To give proper theoretical instruction schools should have access to and use a classroom in which full use of visual aid is made. Wherever possible a classroom should be equipped with a range of resources -

- a. White board or flip chart
- b. Smart TV/DVD projection equipment
- c. An overhead projector
- d. Models, posters, drawings, current charts, photographs etc. should be used and displayed to enrich the learning environment.

A Simulator - At least a simple riser hang-point simulator with control toggles to simulate in-flight experience for harness settings, control familiarization, turns & weight shift practice.

Equipment

- Only EN Certified Equipment, in good airworthy condition, suitable for the level must be used in Training operations.
- It should be of the correct size according to the body weight of the student.
- Same goes with other articles of the Flying Equipment including a Paraglider, a Harness with proper back protection, Safety Reserve, Radio & a Helmet.

Guidelines for flying sites

Paragliding is a weather dependent sport. A good understanding of the terrain & the winds play a crucial role in this sport. While choosing a training hill or a flying site, understanding the aerological aspect is vital to the safety of flying & training operations.

Risk Assessment, Review & Documentation of the Flying Site

- A thorough risk identification & assessment must be carried out of the site. A record should be made of the risk sources like power lines, danger areas, turbulence, venturi areas, lift zones, sink areas etc along with useful information like thermal sources & triggers and any peculiarities that would improve site understanding & knowledge and influence safety.
- Organizations which are using the site must have written record of risk sources, past events/incidents, their causes and their potential consequences. This documentation should consider historical data, theoretical analysis, informed and expert opinions etc.
- Level of risk can also be defined in this document for a particular site
- If the site is approved by qualified persons for paragliding activity the location co-ordinates should be noted and referred to while corresponding to authorities for airspace permissions.

Radio Communication

- Maharashtra tourism department should allocate safety & emergency frequency for Paragliding in Maharashtra.
- The pilots must be well trained to understand the proper radio protocol & procedures.

Non Professional Qualification

Hobby Pilots / Free Flyers

For hobby pilots in India, FAI Safepro rating program which has been recently revised by members of internationally recognized associations like CIVL, FFVL, APPI, BHPA & USHPA can be used for reference.

Responsibilities of Hobby Pilots / Free Flyers

1. Solo free flier is recommended to hold FAI STAGE 5 – SENIOR PILOT (BROWN) certification or Equivalent as a proof of his competence.

2. Must have personal accident insurance cover
3. Recommended to have third-party liability insurance
4. Pilots must comply with Air Law.
5. Recommended to get a first aid & EFR Certification every two years

Non Professional Tandem Pilot

Requirement

1. Be over 18 years of age.
2. Be certified as an IPPI 5. If the pilot is not IPPI 5 certified, he should be able to prove that he fulfills all IPPI 5 requirements (including: experience in paragliding of more than one year, advanced SIV, XC) and pass a preliminary theory test.
3. Pilots can choose to enroll for a Course which can be conducted by professionals from accredited association which may include knowledge about tandem operating, procedures, gear and attitude etc. Pilot may also have tandem flights as a pilot & passenger under the direct control of an instructor during this course.
4. FAI Safepro program has been recently revised and included Non Commercial Tandem Pilot rating. This program was revised by members of internationally recognized associations like CIVL, FFVL, APPI, BHPA & USHPA. To get the proof the Non Commercial Tandem Pilots competence all the pilots must be examined by qualified professionals from accredited association by referring to the criteria mentioned in FAI Safepro program.
5. Must submit proof of First Aid training (Red Cross or other rescue organization equivalence).
6. Must operate in VFR and in VMC conditions. Flying inside the cloud or night flying is strictly not allowed.

Professional Qualification

Pro Tandem Pilot

Requirements

1. Min. age 18 years
2. Recommended S.S.C. Passed
3. Be an IPPI 5 Advanced Pilot or equivalence
4. Be a non-commercial tandem pilot for at least one year
5. Have logged a minimum number of 100 tandem flights as a pilot with a proof.
6. Have a valid & active first aid certificate
7. Good communication skills (English, Hindi & local language) & they are able to work efficiently with a high safety level.

8. Passing a theory and practical exam that evaluates the professionalism of the tandem pilot, his ability to work efficiently with a high safety level from an instructor from accredited association.
9. Uses Certified Glider, Pilot & Passenger harness, Helmets
10. Carry certified emergency parachute, repacked as per manufacturer's manual guidelines
11. Tandem gear in good state
12. Third party liability insurance mandatory if available
13. Insurance for Pilot & Passenger mandatory if available
14. Report all incidents & accidents to authorities
15. Respect rules and regulations of the countries he is flying in (working laws).
16. Expect to act in an exemplary manner (value of example).
17. No acro in tandem above ground.
18. Spreader bars must be changed after 500 flights or 5 years, whichever is earlier
19. No flight under the influence of alcohol or drugs or hangover
20. Must operate in VFR and in VMC conditions. Flying inside the cloud or night flying is strictly not allowed.

Assistant Instructor

The Assistant Instructor rating is the first qualification for those who are eager to teach paragliding.

Requirements

1. Be over 18 years of age.
2. Should train / attend course under a qualified instructor from accredited association which may typically last for 160 hours (20 days). Duration may vary upon decision of the instructor team. Assistant instructor must continue working under a qualified instructor for at least 2 years.
3. Assistant Instructors should be able to provide student pilots with quality knowledge and skill development through structured programs and courses.
4. Assistant instructor operate under the supervision of a qualified Instructor.
5. Submit proof of First Aid training (Red Cross or other rescue organization equivalence).
6. Hold at least noncommercial tandem pilot rating for at least one year.
7. Have performed a minimum of 100 tandem flights as a pilot.
8. S.S.C. Passed
9. Guiding techniques at take-off and landing with training to react properly in case of unexpected action. Safety procedure when guiding a student's flight should widely studied and practiced.
10. Must have in depth and updated cutting edge knowledge about gear, flight mechanics and piloting, weather forecasting, mental, airspace.
11. Contract a third party liability pro insurance if available.
12. Must Report incident / accident

13. Respect rules and regulations of the state / countries he is flying and teaching (working laws).
14. Act in an exemplary manner (value of example).

3. Instructor

Paragliding Instructors have a high level of theoretical knowledge and practical skills. Their abilities in teaching paragliding make them a solid choice to learn paragliding from experienced Instructors.

Requirements

1. The assistant instructor may take the instructor exam to validate instructor qualification from qualified instructor after 2 years of experience.
2. If the pilot is already an experienced instructor, and wish to have his skills recognized, then he will need to attend pro-workshop conducted by qualified professionals from accredited association.
3. Theoretical knowledge judged on theory exam and verbal presentations
4. Glider trim control mastered.
5. Demonstration of tandem operation featuring perfect safety procedure and good technique.
6. Student guiding on takeoff, in flight and landing. Ability to react properly in unexpected situations.
7. Theoretical session given to students. Quality and clearness of explanations, course adapted to student's level and practical objectives pursued.
8. Practical session prepared with different teaching tools and given to students in the field.
9. Ability to propose to a pilot a pertinent short, mid and long term progression plan.
10. Give a logbook to the student.
11. Gliders used for school should be in good state and adapted to student's skills and morphology.
12. Contract a third party liability pro insurance if available.
13. Inform student about benefits to contract a liability insurance and risks to fly without (if applies).
14. Report if any incident / accident
15. Respect rules and regulations of the state / countries he is flying and teaching (working laws).
16. Act in an exemplary manner (value of example)

Emergency Preparedness and Response

The organization shall identify & document potential emergency situations and their impacts. The organization then should create & document detailed response action and

procedures. The organization should review its emergency response plans and procedures time to time.

The organization shall have a procedure to collect the min information from each participant:

- > Identification details (e.g. ID number, full name);
- > Emergency contact details (including name and means of contact);
- > Special assistance required;
- > Health and medical conditions.

The organization shall collect, store and use personal data according to applicable regulations and requirements.

CFI's, Instructors & Assistant Instructors of the school must teach the students importance of handling emergency situation and a thorough procedure must be included in the training.

All professionals including Pro Tandem pilots should be very proficient in responding to and handling emergency situations.

Safety Policy & SOP

Every organization involved in Sport of Paragliding, must have a well-documented Policy on Safety & Standard operating procedure document to respond to any kind of emergency. These documents shall cover all the aspects of safety standards, response & performance. Internal and external audits may be done on these documents to get statistics & continuous improvement of safety standards.

Reporting an Incident or accident

One should declare and document any incident or accident during the sport even though you are a victim or in charge or a witness.

If there are many witnesses involved in the accident, then make a declaration for every witness, and note their names and contact number which will help officials to investigate the incident further.

Recording, analyzing & maintaining incident reports helps to prevent future incidents. It also helps to evaluate the effectiveness of the safety management system, and to control risks.

Legal Aspect

Guidelines for Permissions Process

Please make sure you are a registered operator under the law of the state or central government.

Paragliding is a self-regulated sport worldwide & in India too doesn't come under the domain of DGCA (Director General Civil Aviation). So, no permission or NOC is needed from DGCA.

NOC is required in writing from all local Police and Administrative authorities in the area where Paragliding Operations are planned.

An Operator is required to take permission from the Airport Authority of India (AAI) for each area in which they plan to operate a flight. This permission is issued after clearance and consultation is taken from the nearest aerodrome and ATC authority.

Air Defence Clearance: AFMLU, the Air Force Military Liaising Unit controls all Indian Airspace and are responsible to give air defence clearance. This is done on the basis of the airspace you are choosing to fly in. AFMLU co-ordinates this with the IAF ATC & AAI (Airports Authority of India).

Daily Permissions - The type of daily permissions will depend on the location of your flying site & Rules will vary from region to region. You may need to inform the local ATC of your flying activity over a phone.

Equipment

The Paragliding equipment used (Paraglider, Harness, Reserve Parachute, Helmet) must be certified as per EN Norms.

INSPECTION

All Paragliding equipment should be periodically checked as per the manufacturer's guidelines and recommendations. These checks should be duly logged.

Safety Notices

Pilots must subscribe to newsletters from the manufacture of their gear to get the latest updates on Safety Notices published to keep their knowledge up to date and to replace faulty parts of the glider, if any.

Environment-friendly Practices - Refer to the [Guidelines for 'Leave Minimum Impact' practices.](#)

First aid kit - Indicative list of items for [First-aid kit are given in Appendix 2.](#)

-End of Safety Guideline -

Safety Guidelines for Hot Air Ballooning

Introduction

Hot air balloon flights are done in VMC conditions which requires visibility of 5 KMS. Hot Air balloon flights are seasonal and balloon fly at Sunrise and 2 hrs before sunset. A Hot Air Balloon moves at the speed of the localised wind conditions. As per existing operational - guidelines of manufactures, a Hot Air Balloon is not flown in wind conditions exceeding 15 knots (27.8km/h) on the surface. A Hot Air Balloon is a very large (over 14 metres in width and 30 metres in height), brightly coloured, - slow moving object that maintains the same shape and size as seen from a 360° perspective of approaching aircraft. A Hot Air Balloon can safely alter its altitude to climb or descend immediately and at a rate of 1000ft/min (5m/second). A Hot Air Balloon is the only aircraft that allows the Pilot in Command to have a visual 360° direct line of sight whilst piloting the aircraft. The pilot maintains a two way communication with the ATC, hot air balloon is also equipped with GPS, Altimeter and other important instruments. Hot Air Balloons don't take off from airports they operate at faraway places as allowed by the relevant ATC.

Hot Air Balloons work according to the natural law that hot air is lighter than cold air. To generate lift and therefore take flight, hot air balloons employ a burner that heats the air within the balloon until it becomes lighter than the external air. The difference in the temperature inside the balloon relative to the outside temperature, determines the amount of lift the balloon will have. Accordingly, by controlling the internal temperature, the balloon's flight is controlled with respect to ascent and descent. The single most defining factor of balloon Flight Safety is the weather. From take-off to landing; fog, rain, snow, wind, thermal winds etc. are all key elements to consider when attempting a safe hot air balloon flight. Before a safe balloon flight can begin, the pilot must always check the forecast and select a suitable departure and landing area.

The D.G.C.A.(Director General Civil Aviation - www.dgca.nic.in) in India has formulated regulations for Hot Air Balloons in the Civil Aviation Requirements, CAR Section 2 – Airworthiness, Series 'F' Part XV, Revision-1, Dated 11th November 2008 of D.G.C.A., Min of Civil Aviation, Govt. of India and wherever any clarification needed should be read with this CAR.

There are two main types of Hot Air Balloon Flight:

- 1) **Free Flight** – This is where a Balloon takes off from one location and travels with the wind to land at another alternate location.
- 2) **Tethered Flight** – This is when ropes are safely attached to the Balloon and the Balloon ascends and descends on the spot, with the ropes restraining the Balloon from flying away with the wind. There is no difference as far as the regulations are concerned between Free Flights (without ropes) and Tethered Flights (with ropes). All

the requirements for Operator certification, pilot qualifications and equipment registration & maintenance have to be met for tethered flights as well.

Adventure Guides/ Instructors

Basic minimum qualifications and experience to fly Hot Air Balloons one must have a Balloon Pilot License issued by DGCA.

If an operator employs Foreign Pilots then those Pilots must have a Valid FATA (Foreign Aircrew Temporary Authorization) which is issued by DGCA.

As part of all Pilot license requirements, every Pilot must be having a Medical Certificate endorsed by the relevant Civil Aviation Authority

Equipment required

Instruments & Equipment to be carried by Balloons in flight:

1. Hand fire extinguisher of an approved type, in the main compartment carrying personnel.
2. Safety harness for each personnel on board. The harness for each person need not be provided for gondola or basket type of balloons.
3. A compass
4. An altimeter
5. A rate of climb indicator.
6. First Aid Kit (as per CAR Series X Part III)
7. A fuel quantity gauge.
8. An envelope temperature indicator.
9. 3 separate ignition sources
10. Two way R/T Communication Equipment.
11. Flight Manuals, Operations manual and all other relevant manuals as specified by DGCA.
12. Equipment care and maintenance Balloons are certified aircraft and, as such, are regulated by the D.G.C.A.. They must meet manufacturing standards and are subject to periodic inspections, just like a commercial aircraft. All Balloons must be registered with the D.G.C.A. and its registration no. displayed on the Balloon.

Inspection & Maintenance

Procedures On the basis of Manufacturer Maintenance Manual, operators need to prepare an Aircraft Maintenance Program (AMP) which must be approved by the DGCA. Details of all inspection schedules are as follows:

PART 1: SCHEDULED INSPECTIONS

These routine inspections are accomplished at regular, planned intervals. They consist of following inspections:

Inspection Interval - Inspection

- Pre Flight inspection - Before Every Flight
- 100Hr./1 year inspection schedule - At every 100Hr/1 year of flying

PART 2: COMPONENT OVERHAUL & SERVICE LIFE LIMIT

Item - Frequency - Inspection

- Envelope - 300hr. /3 yrs whichever is earlier and then every 100hr. /1 year whichever is earlier. - Grab Test
- Fuel Cylinder - 5 years & 10 years - Hydrostatic Test
- Fuel Cylinder Pressure Relief valve(PRV) - Every 10 years - Replace

PART 3: UNSCHEDULED INSPECTIONS

This Part contains the special inspections considered necessary if the balloon has been subjected to overheating or a hard landing or contact with power lines. Following are the conditions in which these inspections are to be carried out:

1. Inspection after Overheating:
2. Power line Contact Inspection:
3. Hard landing Inspection:

SOP's & Operating Instructions

Hot Air Balloon Operations should be undertaken with the following considerations:

- a) Operating instructions must be followed as per the operations manual approved by DGCA.
- b) Flight Manual Information and Approval.
The Flight Manual must contain:
 1. A description of the balloon and its technical equipment with explanatory sketches;
 2. Operating limitations, normal procedures (including rigging, inflation and deflation), emergency procedures, and other relevant information specific to the balloon's operating characteristics and necessary for safe operation.
 3. Specification of the permissible lifting gas
 4. Information for ground handling, transport and storage.

Documentation

The following documentation is required to be maintained by the operator:

Administrative:

1. Details of owner and operator
2. Document indicating the annual inspections carried out by an inspecting body
3. List of Pilots along with copies of relevant certifications

4. Evidence of public and other liability insurance
5. Copies of Permission from Airports Authority and Local Collector

Operational:

1. Log book containing the daily operation sheets
2. Accident/ incident report sheets
3. Flight and operations log
4. Passenger Manifest Sheets
5. Risk assessment and management plan
6. Emergency procedures manual
7. Manufacturer's product manual
8. Current inspection report

Following manuals have to be prepared and approved by DGCA:

1. Maintenance Organization Exposition (MOE)
2. Continuing Airworthiness Management Exposition (CAME)
3. Operation Manual
4. Security Manual
5. Flight Safety Manual
6. Safety Management System Manual

Information to be provided for participants and visitors:

- a) Description of the activity
- b) Safety instructions
- c) Weather, Medical and Age restrictions
- d) Information relating to personal public liability insurance of the operator

Risk Mitigation & Emergencies & Rescues

The PIC should be familiar with all emergency procedures listed in the DGCA approved Flight manual including:

- i. Emergency landings
- ii. Pilot flame failure
- iii. Fire on the ground
- iv. Fire in the air
- v. Blast valve failure
- vi. Contact with power lines

Each Ballooning operator should establish and review procedures for all possible emergencies. Every pilot and passenger should thoroughly understand emergency procedures. Pre-flight passenger briefing must be carried out by the Pilot in command.

A monthly risk assessment as per given

Performa needs to be carried out and reviewed by the Chief Pilot and the owner/operator and records maintained.

Safety briefing

Safety information to passenger is essential, as is certain practical advice, like basket layout and how to access the basket. As per the Flight Manual, the following briefing must be provided to passengers:

- General Briefing.
- Passenger Briefing (Pre Inflation).
- Pre Flight Briefing
- Pre Landing
- After Landing

Medical Concerns

As per DGCA guidelines all Hot Air Balloons must have comprehensive insurance that includes coverage of all passengers, Pilot and third party liability.

As a matter of Best Practice, all commercial operators should expect every passengers to have a basic level of general health and physical well-being, this includes:

- No recent surgery.
- No known significant hip, knee, neck or back problems.
- No recently broken bones.
- Not currently pregnant.
- Ability to stand for at least 1 hour without rest.
- Must be at least 5 years of age.
- Not under the influence of alcohol or drugs at the time of flight. The Pilot is responsible to assess the medical condition of all passengers before boarding a Hot Air Balloon Flight and the Pilot and the operator reserves the right to refuse any passenger to fly if they believe that they are not medically fit to fly. "Basic Minimum Standards" for grant of recognition to operators
- For the commercial operations of Hot Air Balloons, an Operator must have a valid Air Operator Permit (AOP) as issued by DGCA.
- All Balloon Organizations have to be approved by DGCA under Aircraft Maintenance Organization (AMO) as per CAR-145 and Continuing Airworthiness Management Organization (CAMO) as per CAR-M, Sub-Part G.
- If the operator is certified as an Aircraft Maintenance Organization (AMO), the Quality Manager (QM) must submit a Maintenance Organization Exposition (MOE) which must be subsequently approved by the DGCA.
- For approval of Continuing Airworthiness Management Organization (CAMO), the Continuing Airworthiness Manager (CAM) must submit a Continuing Airworthiness Management Exposition (CAME) which must be subsequently approved by DGCA.
- Before every flight the Pilot must ensure that the Balloon has a valid and Current Certificate of Airworthiness (C of A) and Airworthiness Review Certificate (ARC).
- Pilot has to check Certificate of Release to Service (CRS) before every flight which is issued by Aircraft Maintenance Engineer (AME).
- Hot air balloons engaged in commercial operations must possess a Type Certificate issued or validated by the DGCA or an export Certificate of Airworthiness issued by a country whose airworthiness standards are equivalent and acceptable to DGCA.

- All Balloon operators must have an Emergency Action Plan. Training for the EAP must be regularly imparted to pilots and ground personnel. A list of emergency contact numbers must always be with the pilots and ground personnel.

Log Books

A Technical log in respect of each balloon indicating details of every flight, like the date of flight, lift off time, total flight time, the places of departure and arrival, shall be maintained. The entries in the log book shall be certified by the pilots undertaking the flights. A Balloon log book shall be maintained by every operator to keep a record of the flying hours of a Balloon and the modification and other repair work carried out on the balloon.

Documents to be carried on Board the Flight:

- 1) Technical Log.
- 2) Certificate of Release to Service (CRS).
- 3) Certificate of Airworthiness (C of A).
- 4) Airworthiness Review Certificate (ARC).
- 5) Certificate of Registration (C of R).
- 6) Appropriate license for the Pilot.
- 7) Weight Schedule, duly approved by DGCA.

Flying Permission

1. An Operator is required to take permission from the Airport Authority of India (AAI) for each area in which they plan to operate a flight. This permission is issued after clearance and consultation is taken from the nearest aerodrome and ATC authority.
2. Permission is required in writing from all local Police and Administrative authorities in the area where Balloon flight Operations are planned.
3. The Operator must file a Flight plan with the AAI before every flight.
4. All Operators are required to take an FIC (Flight Information Centre) number and ADC (Air Defense Clearance) code from the relative departments before every flight. This information must be provided to the concerned ATC (Air Traffic Controller) before any flight can commence operations.
5. Pilots have to request for Take-off permission from concerned ATC before every flight and must close the flight plan following the completion of every flight.

Environment-friendly Practices - Refer to the [Guidelines for 'Leave Minimum Impact' practices.](#)

First aid kit - Indicative list of items for [First-aid kit are given in Appendix 2.](#)

- End of Safety Guideline -

Safety Guidelines for Parasailing

Introduction

Parasailing, also known as parascending, or parakiting, is a recreational kiting activity where a person is towed behind a vehicle (usually a boat) while attached to a specially designed canopy wing known as a parasail wing. On land or over water the manned kite's moving anchor may be a car, truck, or boat; parasailing just by kiting in heavy winds is highly discouraged. The boat then drives off, carrying the parascender or wing and person into the air. If the boat is powerful enough, two or three people can parasail behind it at the same time. The parascender has little or no control over the parachute.

Basic minimum qualifications and experience

1. Parasail Drivers /Instructors must be highly experienced and have certification from a recognised National or International body.
2. They should have valid FA/CPR certification.

Equipment required

1. Parasail wings must have APCUL (Association des Constructeurs de Parapente Ultra Legers), DHV (Deutscher Hangegleiter Verband), CEN (European Committee for Standardization) or any certification recognised by FAI (Fédération Aéronautique Internationale). Such certification should be stitched on the wing and visible for inspection. Harness should also be certified.
2. If operating over water, a proper floatation device is to be used.
3. If operating over ground a certified helmet, knee and elbow protection must be used.

Equipment care and maintenance

A logbook of equipment and equipment maintenance to be kept.

Inspection & Maintenance Procedures

All commercially used equipment must be inspected annually.

SOP's & Operating Instructions

1. Passenger should be clearly briefed on basics of flight covering risks, staff introductions and training.
2. Passengers should sign liability release waiver.
3. Passenger /pilot should wear appropriate clothing that is safe and comfortable for the task and weather.
4. No aerobatic manoeuvres to be done with clients.
5. No overloading or under loading of equipment
6. Should fly conforming to VFR and in VMC. Cloud or night flying is strictly prohibited.
7. Any incident to be fully documented and reported.

Documentation

1. Certification and logbook
2. Equipment logbook and service record
3. Liability cover when and where available
4. Emergency Action Plan

Risk Mitigation

1. Operations to be undertaken at sites judged to be safe for parasailing operations.
2. Selected sites should not have any turbulence sources or hazards.
3. Life jacket to be mandatory if operating near water.
4. Parasail should be inspected annually
5. First Aid kit, stretcher (spinal board) and qualified staff should be available at the site.
6. Pilots should be First Aid /CPR certified
7. Emergency response time (ambulance) and distance to hospital should be clearly conveyed to passengers and emergency numbers available at location.
8. A detailed Emergency Action Plan should be in position and training for the same provided to staff periodically.

Emergencies & Rescues

1. Immediate first aid and proper equipment for stabilization and removal from life threatening situation.
2. Contact numbers for ambulance and other emergency services and evacuate at the very earliest
3. Get witness statements before debriefing them

4. Write your own report
5. Submit report and follow up on injured
6. Take immediate action to improve on any weakness in equipment or staff exposed by incident

Safety Briefing

All instructors and guides should be able to give a thorough safety briefing that covers all safety aspects and detailed instructions about a safe parasailing tour. This briefing must be clear and given in English, Hindi or the local language that passenger can understand.

1. Passengers should be briefed on equipment.
2. Briefing should cover emergency procedures.
3. Any sensitive parts within reach of passengers should be clearly marked and briefed upon appropriately.
4. Essential communication terms /signals should be explained.

Medical concerns

There should be clear declaration of medical conditions that are not suitable for parasailing by the operator. Any flight taken with differently abled passengers should be well planned, documented and reported in advance. All instructors and guides must be able to ensure that a question regarding medical issues is asked before the activity is conducted. It is recommended that heart patients, those with spinal issues, recent surgery or any other medical issue of concern, expecting mothers and under age children do not undertake the activity. It is also recommended to check for epilepsy and asthmatic patients, on extent of ailment.

Environment-friendly Practices - Refer to the [Guidelines for 'Leave Minimum Impact' practices.](#)

First aid kit - Indicative list of items for [First-aid kit are given in Appendix 2.](#)

- End of Safety Guideline -

Safety Guidelines for Skydiving

Introduction

1. A “skydive” is defined as the descent of a person to the surface from an aircraft in flight, while using a parachute during all or part of that descent.
2. All persons participating in skydiving should be familiar with the Skydiver’s Information Manual and all Central, State and local rules and regulations pertaining to skydiving.
3. Aero Club of India is the apex body for governing all aero sports in India and is authorised by the FAI (Fédération Aéronautique Internationale), the International Sporting Body for Aero sports, to issue FAI sporting licenses.
4. Skydivers may get licenses from USPA (United States Parachute Association), BPA (British Parachute Association), APA (Army Parachute Association) or any other body duly authorised by Aero Club of India

General

The following are the basic general requirements

Compliance with Govt. Regulations.

- a) No Skydive may be made in violation of Indian regulations.
- b) DGCA is the apex governing body for Civil aviation and written approval under rule “26(a)” of Aircraft rules 1937 must be taken prior to commencement of skydiving operations

Medical Requirements

- a) All persons engaging in skydiving must carry a certificate of physical fitness for skydiving from a registered physician.
- b) Those with a heart condition, Blood Pressure, back issues, recent surgery, hospitalization, epilepsy, any other medical issue of concern and expecting mothers must avoid skydiving.

Age Requirements

Skydivers must be at least 18 years of age. A person above 16 years may jump with parent/guardian consenting to the jump and present at the drop zone.

Alcohol and drugs

- a) No person may make a parachute jump, or attempt to make a jump, if that person is or appears to be under the influence of alcohol or any drug that affects that person's faculties in any way contrary to safety.
- b) Any person participating in skydiving activities may be subjected to breath analyzer testing for alcohol.

Winds (S) - Maximum ground winds

- a. For all solo students - 12 mph
- b. For licensed skydivers : 25 mph

Minimum Opening altitudes

- a) Tandem Jumps- 4500 Feet AGL
- b) All students and "A" license holders - 3000 Feet AGL
- c) "B" "C" "D" license or above - 2500 Feet AGL

Drop zone requirements.

- a) Manned ground-to-air communications (e.g., radios, panels, smoke, lights) are to be present on the drop zone during skydiving operations.
- b) Hazards are defined as telephone and power lines, towers, buildings, open bodies of water, highways, automobiles, and clusters of trees covering more than 3,000 square meters.
- c) Areas used for skydiving should be unobstructed, with the following minimum radial distances to the nearest hazard
 - a. Solo students and A-license holders - 100 meters
 - b. B and C-license holders and all tandem skydives - 50 meters
 - c. D-license holders - 12 meters

Equipment

When performing night jumps, each skydiver must display a light that is visible for at least three statute miles from the time the jumper is under an open parachute until landing

1. All students are to be equipped with the following equipment until they have obtained a license:
 - a. a rigid helmet (except tandem students)
 - b. a piggyback harness and container system that includes a single-point riser release and a reserve static line, except
 - i. A student who has been cleared for freefall self-supervision may jump without a reserve static line upon endorsement from his or her supervising instructor.
 - ii. Such endorsement may be for one jump or a series of jumps.
 - c. a visually accessible altimeter (except tandem students)
 - d. a functional automatic activation device that meets the manufacturer's recommended service schedule
 - e. a ram-air main canopy suitable for student use
 - f. a steerable reserve canopy appropriate to the student's weight
 - g. for freefall, a ripcord-activated, springloaded, pilot-chute-equipped main parachute or a bottom-of-container (BOC) throw-out pilot chute
2. Students must receive additional ground instruction in emergency procedures and deployment-specific information before jumping any unfamiliar system.
3. For each harness-hold jump, each AFF rating holder supervising the jump must be equipped with a visually accessible altimeter.
4. All skydivers wearing a round main or reserve canopy and all solo students must wear flotation gear when the intended exit, opening, or landing point is within one mile of an open body of water (an open body of water is defined as one in which a skydiver could drown).

Briefing

1. A comprehensive briefing must be given prior to a tandem jump explaining procedures, body positions, climb out exit, do's and don'ts and emergency situations. Since the jumper is likely to be apprehensive, the briefing must be done in a very cool, calm and encouraging manner.
2. For students under training, the ISP (integrated student's programme) of USPA SIM (United States Parachute Association, Skydivers Information Manual) is followed for briefing, training and debriefing procedures. A copy of SIM is available at www.uspa.org. Instructors and coaches are recognised and verified through the USPA or equivalent database which is available online.

Training

All first-jump non-method-specific training must be conducted by an experienced and qualified Instructor.

All students must receive training in the following areas, sufficient to jump safely

- equipment
- aircraft and exit procedures
- freefall procedures
- deployment procedures and parachute emergencies
- reserve parachute deployment
- canopy flight procedures
- landing procedures and emergencies

Advancement criteria

Static-lin

- a) All jumps must be conducted by a licensed Instructor.
- b) Before being cleared for free fall, all students must perform five successive jumps with practice deployments while demonstrating the ability to maintain stability and control from exit to opening.
- c) All students must be under the direct supervision of an appropriately rated instructor until they are able to complete one successful clear-and-pull.
- d) Following a successful clear-andpull, each student must be supervised in the aircraft and in freefall by a licensed Instructor until demonstrating stability and heading control, prior to and within five seconds after initiating two intentional disorienting maneuvers involving a back-toearth presentation
- e) All ground training must be conducted by an instructor in that student's training method, until demonstrating stability and heading control prior to and within five seconds after initiating two intentional disorienting maneuvers involving a back-toearth presentation.

Tandem training jumps

- a. Any Instructor conducting a tandem ump must hold a current Tandem license; Instructor rating and a manufacturer's type rating.
- b. For progressive training requirements following tandem jumps, refer to "Crossover training."

- c. Intentional back-to-earth or vertical orientations that cause tandem freefall speeds exceeding that of drogue fall are prohibited.
- d. Tandem equipment instruction must be conducted by an individual approved by the tandem equipment manufacturer of that system.

Crossover training

1. Students may transfer after the first or subsequent jumps to another training method after demonstrating sufficient knowledge and skill in the areas of equipment, aircraft, exits, freefall maneuvers, deployment, emergency procedures, canopy control, and rules and recommendations to enter into that program at a comparable level of proficiency and training.
2. Students previously trained in a tandem program may continue in a harness-hold program or must demonstrate a solo exit and practice deployment with stability in the static-line program prior to advancing to freefall.
3. Students previously trained in a harnesshold program must have exited stable without assistance or performed a stable static-line jump with a practice deployment supervised by Static-Line licensed Instructor prior to performing freefall jumps with any non-AFFrated licensed Instructor.

Special altitude equipment and supplementary oxygen

Supplementary oxygen available on the aircraft is mandatory on skydives higher than 15,000 feet (MSL).

Pre-jump requirements

The appropriate altitude and surface winds are to be determined prior to conducting any skydive.

Documentation

The following documentation is required to be kept at Operations Base:

Administrative:

- a. Details of owner and operator

- b. Document indicating the annual inspections carried out by an inspecting body
- c. List of licensed instructors along with copies of relevant certifications
- d. Evidence of public and other liability insurance

Operational:

- a. Log book containing the daily operation sheets
- b. Accident/ incident report sheets
- c. Parachute inspection register and operation log
- d. Parachute packing logbooks
- e. AOD and airborne instrument log book
- f. Risk assessment and management plan
- g. Emergency procedures manual
- h. Manufacturer's product manual
- i. Current inspection report

Information to be provided for participants and visitors:

- a. Description of the activity and safety instructions
- b. Weather, Medical, Age Limits and restrictions
- c. Information relating to personal public liability insurance of the operator

Emergencies and Risk Mitigation

1. Each skydiving center should establish and review procedures for all possible aircraft, equipment and landing emergencies.
2. Every pilot and non-student jumper should thoroughly understand aircraft emergency procedures.
3. For aircraft emergencies all students should take direction from their instructor.
4. A monthly risk assessment as per given performa needs to be carried out and reviewed by the chief instructor and the owner/operator and records maintained.

Environment-friendly Practices - Refer to the [Guidelines for 'Leave Minimum Impact' practices.](#)

First aid kit - Indicative list of items for [First-aid kit are given in Appendix 2.](#)

- End of Safety Guideline -

Safety Guidelines for Air Safaris

INTRODUCTION

Air Safaris, are aerial trips undertaken by tourists over wildlife areas / places of scenic beauty. An aerial vehicle could be a Conventional Control 2-Seat Micro light Aircraft, Weight-Shift Control Powered Hang Glider, Motorised Glider, Sail Plane or just the Para motor Both Back-Pack or Trike Version. Micro lights provide the simplest and most cost-effective form of aerial safari as it can fly lower and slower than regular fixed wing aircraft. This is further enhanced by the open nature of the micro light's "cockpit" which can provide a wide degree of unobstructed view. Because of the specialized nature of aviation sports, their operations are regulated by Civil Aviation Requirements (CARs) of Director General, Civil Aviation (DGCA) in the country.

Adventure Guides/ Instructors & Basic minimum qualifications and experience

Microlight Pilot Licenses (MPL) , Glider Pilot Licenses (GPS) or permits to fly powered hang- gliders are issued by D.G.C.A.. As per laid down guidelines, pilots are permitted to carry a passenger for training purposes. After completing Grade 12 with Physics, Maths and Chemistry, an aspiring pilot needs to register as a student pilot. Pilot training exams are conducted every 3 months by D.G.C.A..

Training for all types of Micro light aircraft is available in the country and all related information is available on the D.G.C.A. web site.

Equipment required

The following types of Microlights are available in the country. Some are imported and some are assembled in the Country.

1. Micro light aircraft
2. Powered Hang Glider
3. Motorised Glider
4. Para motor (back-pack or Trike)

After a security clearance of the owner/ company that owns the Micro light, the micro lights are registered with the D.G.C.A.. A registered number is issued as also an airworthiness certificate which needs to be renewed annually or as advised by the D.G.C.A.

Equipment care and maintenance

It is the responsibility of the company that owns the Micro light aircraft to maintain the flying machine as per the requirements enumerated in the manufacturer's manual.

Inspection & Maintenance Procedures

Quality Control Managers (QCM) authorised by D.G.C.A. for the specific Micro light Aircraft category carry out periodic inspection and certify airworthiness of the Micro lights.

SOPs & Operating Instructions

Operational manuals for all sport flying machines are prepared by the manufacturer and is approved by the civil aviation authority of the country. While registering a Microlight in India with the D.G.C.A, a copy of the manual is deposited and the same is approved along with the registration. The owner / company that owns the Micro light aircraft is expected to follow the Manual.

Documentation

- a) Registration and security clearance of the company with the D.G.C.A..
- b) Acquisition, import and registration of a Micro light aircraft as per the CARs which is available on D.G.C.A web site

Risk Mitigation

- a) To maintain airworthiness of the Micro light aircraft as per the manual of the manufacturer.
- b) To carry out periodical inspection, replace rotables and maintain airworthiness of the flying machine as per the manual.
- c) Up to date pilot training on the flying machine and refresher training as advised by the manufacturer.
- d) Up to date maintenance of the QCM as per manufacturer and use of authorised spares and rotables.
- e) Micro light flying is a fair weather sport and it is the duty of the operator to fly in such conditions.

Emergencies & Rescues

- a) To maintain all time radio connectivity between pilot and ground support.

- b) To maintain all flight safety norms of the manufacturer and as advised by the respective safety guideline of D.G.C.A

Safety briefing

- a) To brief passengers of Dos and Don'ts while flying.
- b) Describe the stand-by rescue procedures, should the need arise.
- c) Before the flight ensure liability waiver & insurance cover are taken care of.

Medical concerns - All prospective passengers to declare if they suffer from any medical conditions that may aggravate during the flight and sign a liability release waiver prior to their flight.

Environment-friendly Practices - Refer to the [Guidelines for 'Leave Minimum Impact' practices.](#)

First aid kit - Indicative list of items for [First-aid kit are given in Appendix 2.](#)

- End of Guideline -

Safety Guidelines for Paramotoring and powered parachutes

Introduction

Paramotoring and Powered Parachutes though they have differences in performances, have similar requirements when it comes to basic guidelines. Paramotoring can be done either on foot launch or on trikes and quads but Powered Parachutes are used only on trikes and Quads because they need bigger engines. The following rules will apply to both PPG (powered paraglider) and powered parachutes.

As compared to paragliding, powered flying has less following in Maharashtra. However there are schools who offer training and joyrides in both paramotoring as well as powered parachutes. One can see paramotoring being conducted in Pune, Ahmadnagar, Palghar and along the Maharashtra coastline.

Legalities – State requirement

All training schools and commercial tandem pilots are expected to operate after getting their organisation or companies registered as per government policies.

Guidelines for flying sites

Any motorised flying will need a large open space without obstructions of buildings, electric wires, electric poles or trees in its flying path. The takeoff and landing zones should have buffer areas for emergencies. The site should be well connected to roads and medical facilities should be available within reasonable motorable distance.

There is airspace where flight is prohibited due to airport proximity, populated areas, military use, presence of dignitaries, sensitive areas and other reasons. If there are places of worship or community centers around the flying zone care should be taken by avoiding flying close to those locations especially when there is gathering of people.

Beaches are the most popular locations for PPG & PPC due to laminar sea breeze but these places are also crowded with tourist. So unless the beach is big enough to accommodate flying activity without disturbing the tourist, it should be avoided. Location for flying should be chosen after studying and observing the wind pattern in the region. Motorised flying has to be done in

smooth laminar wind flow so early morning and evening time is generally suitable for training.

Once the site is found suitable the location co-ordinates should be noted and referred to while corresponding for permissions.

Flying site management

People operating at the site are responsible for following all rules and regulations as directed by local administration and Airport Authority of India.

Guidelines for Permissions Process

No objection Certificate

First you need to obtain an NOC for use of particular site or location. The location or site may be a private property, public property, forest land, seashore etc. District administration is advised by home ministry to look into the matter and the correspondence has to be addressed to “Home” department in district collector’s office. The DC office will interact with District police and get their clearance.

AAI clearance

The final and important clearance is from Airport Authority of India. Airspace is managed by AAI with help of ATC. On basis of clearance from district administrations NOTAM will have to be issued by AAI so that other aircraft pilots are aware of your activities. AAI will be giving you the radius and height ceiling in which you can operate.

Daily permission

For every day flying you need to obtain permission from local ATC over telephone. Local police can also be intimated by SMS/Whatsapp about the daily flying activities to keep them in loop.

Licensing –minimum self-regulation method

Both PPG and PPC are not regulated in India so officially no license is required to fly anywhere in India, however all pilots are expected to maintain a logbook to show their experience level. The training school should take responsibility of skill level of their students and issue them certification for their level of experience. Students are expected to fly in their limitations as cleared by the school certification.

Ideal first contact Response

Along with basic information make sure the prospective student understands that the sport has inherent risks associated with and he is covered by mediclaim and insurance. It should be explained that though it is easy and safe to learn, the sport demands dedication, time and money.

Student Enrollment process

- Basic assessment of students before joining for course.
- Enrollment form with personal details, educational background etc.
- Self-declared fitness form. – Disabilities, mental and physical health issues.
- Indemnity bond explaining insurance, mediclaim, risk factors and liability.
- All students' record is maintained by the club and available for inspection.

Guidelines for PPG & PPC training school operations:

Training courses should be based on BHPA, USPPA, APPI PPG or any other recommended body.

Instructors of training school:

Minimum number of instructors involved in training – Senior Instructor, Assistant Instructor.

There should a good student to instructor ratio maintained by the school as per the batch size.

Minimum Instructors Skill level: Over 5 year's active flying, with mastery over the skill level he is teaching. Good theoretical knowledge of the sport and good communication skills to offer training. Thorough knowledge of the equipment used, syllabus and the rating system is a must along with first aid certificate.

Suggested Training Syllabus guideline

Schools should design and follow their syllabus based on international standards for each level of course conducted by them. Theoretical knowledge should be evaluated by conducting exams. All this information should be documented and available for inspection. Refer to rating system which is equivalent to BHPA, USPPA and APPIPPG which is recommended by FAI.

Introductory course:

The course should cover the basic knowledge of engine, importance of periodic maintenance, understanding of tuning and relating it to the thrust and

sound of engine etc. Along with practical skill development there should be theory and video sessions as part of basic training. There should be proper evaluation of basic skill level attained by the student specially his motor skills and reflexes. If solo flying is involved the student should be able to narrate what he would do once he gets airborne and how he will guide his aircraft to the landing zone for his final leg of flight and the process of throttle control for landing. Only after this he should be cleared for his first solo flight.

Advance level courses: Schools should design their own syllabus for each course. It should be systematic task based training to develop the skill level of the pilot. Log book and certification level for progression as per international standard should be maintained to attend the rating system.

Equipment used and airworthiness

Wings

EN /LTF/DHV/DGAC certified wings recommended for powered flying should be used for flying. Record of all equipment used should be maintained as per guidelines. Equipment room should have proper temperature so as not to damage the equipment while in storage. Annual airworthiness check should be done with documented records.

Engines

Engine requirement for Paramotoring and Powered Parachutes are different. The engines should be well tuned and checked before takeoff. They should have instruments to check the cylinder head temperature and RPM of the engine. Student should be briefed about reading and understanding the instruments.

School Setup

Classroom with teaching aids to explain fundamentals of aviation, board and a television.

Simple riser hang-point-simulator with control toggles to simulate in-flight experience.

Facilities of basic repairs and maintenance and system of inspection and airworthiness check.

Safety and risk management

Equipment vehicle used is suitable for rescue operation and equipped with recommended first aid.

Training is conducted only under supervision of Instructors.

Check lists to be made for all activities conducted by the school.

Pilot is evaluated for physical and mental health before flying.

Briefing for the day at landing zone and placement of wind socks for wind direction at landing zone.

Suitability of wind and weather before and during the activity is assessed and monitored.

Equipment used by pilots is inspected for pilot skill level and airworthiness during setup.

Skill level of student is matched with weather condition during takeoff.

Debriefing session after pack up

Emergency procedures should be documented and available in first-aid box with contact numbers of Ambulances, hospitals and doctors.

Training courses should be based on BHPA, USPPA, APPI PPG or any other recommended body.

Paragliding and Paramotoring is not regulated in India so officially no license is required to fly anywhere in India, however all pilots are expected to maintain a logbook to show their experience level. The training school should take responsibility of skill level of their students and issue them certification/ rating for their level of experience. Students are expected to fly in their limitations as cleared by the school certification/rating.

Independent hobby pilot:

An independent pilot has to be cleared for unsupervised solo flights either by his instructor or by appearing for theory and practical exam to obtain his ratings/qualifications from any recognised school.

Cross country pilot / Acro pilot – compulsion of SIV and reserve

These is a professional category pilots who generally follow international standards or rating and licensing system. This level is achieved by independent pilots who gain experience and knowledge by travelling to various locations and participate in specialized courses.

TANDEM PARAMOTORING and POWERED PARACHUTE – TRIKE

Tandem PPG or PPC should not be attempted if the wind is too strong to launch, and certainly in no more than 18kmph wind. As in the hill launch the passenger should be clipped in only when the pilot has clipped in.

In order to provide appropriate protection to the passenger/ paying student, all tandem flights must adhere to the following operational rules:

1. Prior to all tandem flights, the passenger or student must be informed that such flights are conducted under an exemption granted by the FAA, and that the paramotor does not meet aircraft certification standards set forth by the FAA.
2. When present at a flying site, any tandem pilot should personally ensure that all tandem flying requirements and the site requirements are being strictly followed. ATC clearance, noise pollution, flying with safe landing zone in gliding distance in case of engine failure.
3. All tandem accidents/incidents/malfunctions must be documented by the tandem pilot involved. Other tandem pilots who witness an accident/incident/malfunction are encouraged to report their version.
4. Each operation must comply with all sections of Part 103, except 103.1(a) of the FAR.
5. Flights are conducted for training purposes only. The exemption applies only to flights for the purpose of giving instruction in two-place powered ultralight vehicles.
6. Takeoff: There should be enough runway clearance for taxiing before takeoff as well as clear open space after lift-off to gain height and turn back in case of emergency. There has to be a wind sock on the field clearly visible to pilot during the takeoff.
7. Inflight: After gaining sufficient altitude the pilot should make sure that the passenger is sitting comfortably and relaxed. No aerobatic maneuver to be conducted below 600 feet. Make sure you are flying with landing zone in your glide ratio which you can reach in case of engine failure.
8. Landing: Make sure you can see the windsock and check the wind direction at landing zone. Make a long final leg for landing and adjust the throttle to keep some speed at touch down if necessary use little breaks to keep the nose up till the rear wheel touch the ground. On touch down kill the engine and maintain the wing overhead till the trike stops moving forward.

TANDEM PARAMOTORING FOOTLAUNCH

Tandem PPG should not be attempted if the wind is too strong to forward launch, and certainly in no more than 18kmph wind. As in the hill launch the passenger should be clipped in only when the pilot has clipped in. In order to provide appropriate protection to the passenger/ paying student, all tandem flights must adhere to the following operational rules:

1. Prior to all tandem flights, the passenger or student must be informed that such flights are conducted under an exemption granted by the FAA, and that the PPG does not meet aircraft certification standards set forth by the FAA.
2. When present at a flying site, any tandem pilot should personally ensure that all tandem flying requirements and the site requirements are being strictly followed. ATC clearance, noise pollution, flying with safe landing zone in gliding distance in case of engine failure.
3. All tandem accidents/incidents/malfunctions must be documented by the tandem pilot involved. Other tandem pilots who witness an accident/incident/malfunction are encouraged to report their version.
4. Each operation must comply with all sections of Part 103, except 103.1(a) of the FAR.
6. Takeoff: There should be enough runway clearance for taxiing before takeoff as well as clear open space after lift-off to gain height and turn back in case of emergency. There has to be a wind sock on the field clearly visible to pilot during the takeoff.
7. Inflight: After gaining sufficient altitude the pilot should make sure that the passenger is sitting comfortably and relaxed. No aerobatic maneuver to be conducted below 600 feet. Make sure you are flying with landing zone in your glide ratio which you can reach in case of engine failure.
8. Landing: Make sure you can see the windsock and check the wind direction at landing zone. Make a long final leg for landing and adjust the throttle to keep some speed at touch down if necessary use little breaks to keep the nose up till the rear wheel touch the ground. On touch down kill the engine and maintain the wing overhead, inform the passenger to brace himself while the wing is being collapsed.

References for tandem operations:

1. BHPA: British Hang Gliding and Paragliding Association
2. USPPA: United States Powered Paragliding Association
3. APPI PPG: The Association of Paragliding Pilots and Instructors - Powered Paragliding

Environment-friendly Practices - Refer to the [Guidelines for 'Leave Minimum Impact' practices](#).

First aid kit - Indicative list of items for [First-aid kit are given in Appendix 2](#).

- End of Safety Guideline -

Guidelines for “Leave Minimum Impact”

‘Leave Minimum Impact’ practices help Adventure Programs to minimise adverse impacts of their functioning on their environment. In the context of India, some of the constituents of environment includes but are not limited to: natural environment, socio-cultural environment and archaeological environment. This document states a) the example of the well established environment friendly outdoor ethics titled ‘Leave No Trace Seven Principles’ and b) some recommendations specific to local conditions in India.

LEAVE NO TRACE SEVEN PRINCIPLES (LNT) - Outdoor Ethics

Please note that appropriate training will immensely help practice these principles. These principles are to be adapted to the socio-ecological concerns of the region one visits and practiced assiduously under guidance to start making a person ‘LNT-friendly’

Plan ahead and prepare

- Know the regulations and special concerns for the area you’ll visit.
- Travel in small groups. Split larger parties into groups of 4 - 6.
- Use a map and compass to eliminate the need for tree scars, rock cairns or ribbons.
- Repackage food into reusable containers.
- Prepare for all types of weather.
- Carefully evaluate the risk associated with your outing.

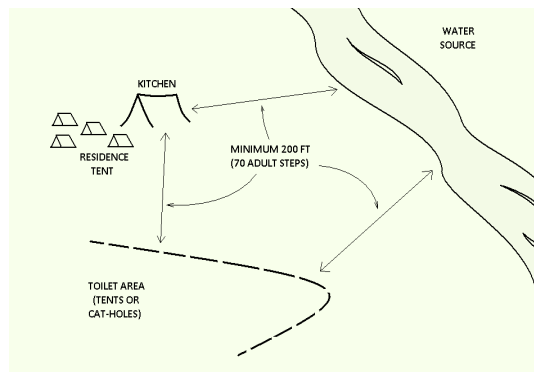
Travel and camp on durable surfaces

On the trail

- Stay on designated trails. Walk in single file in the middle of the path.
- Do not cut switchbacks.
- When traveling cross-country, choose the most durable surface available: rock, gravel, dry grasses, or snow.

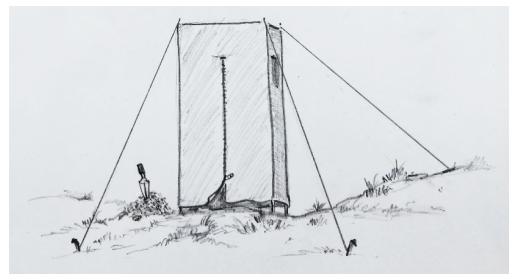
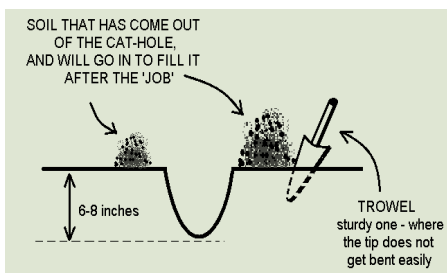
At camp

- Good campsites are found, not made. Altering a site is unnecessary.
- Choose established legal campsites that won’t be harmed by your stay.
- Keep pollutants out of water sources by camping at least 200 feet (70 adult steps) from lakes and streams.



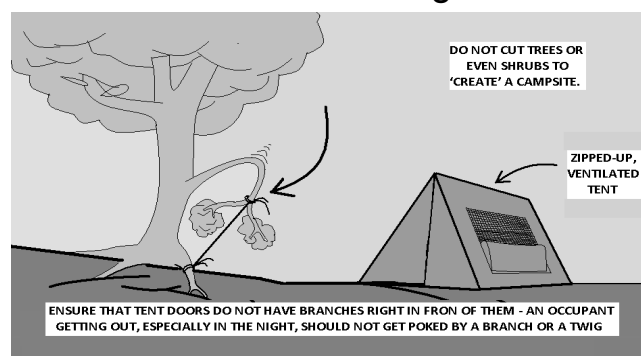
Dispose off waste properly

- Pack it in, pack it out. Inspect your campsites and rest areas for trash or spilled foods. Pack out all trash - yours and others'.
- Deposits solid human waste in cat holes dug 6 to 8 inches deep at least 200 feet from water, camp, and trails. Cover and disguise the cat hole when finished. Pack out toilet paper.
- To wash yourself or your dishes, carry water 200 feet away from streams or lakes and use small amounts of biodegradable soap. Scatter strained dishwater.



Leave what you find

- Preserve the heritage. Do not damage historical structures or remove artefacts.
- Leave rocks, plants, and other natural objects where found.
- Do not build structures or furniture or dig trenches.



Minimize campfire impacts

- Campfire can cause lasting impacts on the backcountry. Always carry a lightweight stove for cooking. Enjoy a candle lantern for light.
- Where fires are permitted, use established fire rings or mound fires.
- Keep fires small. Use dead, downed wood that can be broken by hand.
- Burn all woods and coals to ash. Put out campfires completely, and then scatter cool ashes.

Respect wildlife

- Observe wildlife from a distance. Do not follow or approach them.
- Never feed wild animals. Feeding wildlife damages their health, alters natural behaviours, and exposes them to predators and other dangers
- Protect wildlife and your food by storing rations and trash securely.
- Keep pets under control at all times.
- Leave young animals alone.
- Avoid nesting, feeding or mating animals.

Be considerate of other visitors

- Respect other visitors and protect the quality of their experience.
- Be courteous. Yield to other users on the trail.
- Step to the downhill side of trail when encountering pack animals.
- Take breaks on durable surfaces away from the trail.
- Let nature's sounds prevail. Keep noise levels to a minimum.

Notes for local conditions specific to India and Maharashtra:

1. Do not disturb or take relics from archaeological ruins or ancient shrines and caves
2. Be considerate of local populations
 - Avoid adversely impacting local sources of water (e.g., water tanks) and food (e.g., fields)
 - Be aware of and minimize adverse cultural impact on local population
 - Work towards win-win associations where Adventure Programs generate respectful earning opportunities for locals
 - Avoid occasional help given to villagers on an ad hoc basis; instead explore ways of striking meaningful relationships with local associations like schools and village panchayats for extending relevant help

3. For camps set up for groups, take care to not impact streams and rivers, especially with kitchen refuse and human waste – meticulously follow practices based on Leave No Trace Seven Principles
4. On Himalayan trails, make way for pack animals by standing away from the trail, moving to the uphill side of the trail
5. As far as possible avoid having campfires – the deadwood in the outdoors is used by local populations, in addition to being a resource for flora and fauna. As far as possible, use stoves to save on using wood for cooking camp-meals.

- end of guideline -

Indicative List for First-Aid Kit

First-Aid kit for any adventure activity should be versatile, lightweight and easy to carry. The Leaders of the activity should be well familiar with the contents of First-Aid kit, should be skilled enough to use it during the emergency scenario.

The exact content of First-Aid kit will depend upon various criteria like type of Activity, number of participants, duration, location, level of difficulty, etc. The below list of First-Aid Kit is typical or indicative.

Sr. No.	Description	Quantity (Indicative)	Remarks
1	Skin Ointment/ Antiseptic Ointment	1 no.	Soframycin skin cream or equivalent
2	Antiseptic Liquid	1 no.	Savlon or Dettol or equivalent
3	General Multi-purpose cream	1 no.	Kailas Jeevan or equivalent
4	Skin infection	1 no.	Candid B Cream or equivalent
5	Local Pain Killer Ointment (Muscular / Ortho)	1 no.	Volini Gel/ Voveran or equivalent
6	Local Pain Killer Spray	1 no.	Volini Spray or equivalent
7	Cotton Bandages 2"	2 nos.	
8	Cotton Bandages 3"	2 nos.	
9	Cotton Bandages 5"	2 nos.	
10	Sterile Gauze	2 nos.	
11	Adhesive Tape 1"	1 no.	
12	Micropore Tape 0.5"	1 no.	
13	Micropore Tape 1"	1 no.	
14	Band-Aids box	1 no.	
15	Crape Bandages 5"	1 no.	
16	Cotton Bundle	1 no.	
17	Disposable needle No. 20	1 no.	
18	Knee Cap	1 pair	
19	Rubber Bands (Assorted)	1 no.	
20	Plain Triangular Cloth	1 no.	
21	Plucker	1 no.	
22	Oral Re-hydration	2 nos.	Electral Powder/ Energal Powder or equivalent

23	Splints	Optional	Recommended for Organization to have set of Splints
24	Thermometer	1 no.	
25	Gas Lighter	1 no.	
26	Small Scissor	1 no.	
27	Blade	1 no.	
28	Sanitizer	1 no.	
29	Disposable gloves	2 pairs	
30	Powder for Itching on skin and feet	Optional	Mycoderm/ Nycil/ Candid-B or equivalent

Notes:

1. The Organizations will customize the above list for each type of adventure activity organized.
2. **Medications:** List of Medicines can be prescribed only by physicians/ doctors. Hence it is recommended for the Organizations to include certain medicines for some common problems like fever, cough, cold, wounds, burns, pain relief, gastrointestinal problems, etc. in consultation with physicians/ doctors. In such case, leaders of the activity should be familiar with the medicines included in the kit. Medical kit should have a list of medicines with their usage, prescribed dosage, possible side effects as advised by consulting physician/ doctor.
3. Depending upon nature of wound/ illness, Leader of activity will decide to take the participant to the nearest medical center after giving first-aid to the participant.
4. Primary Health Care centers are available in many villages in Maharashtra. Leader of the Activity may take help of local villagers to find out nearest available Health Care center/ civic hospital based on criticality of participant.