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ACCELERATED FREE FALL (AFF) MANUAL

Accelerated Free Fall (AFF) Training

The Accelerated Free Fall (AFF) Programme originated in the late 70s early 80s in America, and was developed as an alternative training programme to the conventional static line/short delay system, AFF follows a different route to the same end. In essence an alternative method of achieving Category 8, from jump number 1.

The aim of the BPA's AFF Programme is to ensure that the student has the basic survival and control skills needed to skydive **safely** and **confidently** on their own. This must be the overriding consideration when instructors are using the programme.

Requirements for AFF can be found in the BPA's Operations Manual. Ensure that you are aware of current regulations.

LEVEL 1 – GROUND TRAINING (A GUIDELINE)

Personnel required: Two AFF Instructors as required.

1. Concept of the Accelerated Free Fall programme.

This programme is called "Accelerated Free Fall" because the learning process can be quite a lot faster than with the RAPS static line progression programme. Although both systems can get the student to Category 8 in the same minimum number of jumps, the personal tuition provided on the AFF Programme usually ensures that the average student will qualify in a shorter time frame. The programme has been carefully and systematically developed. It utilises the skills, techniques, and equipment that have evolved in skydiving to give the student an intensive learning experience. The British Parachute Association approves this training method for use at BPA Affiliated Clubs that are equipped and staffed adequately to run the AFF Programme.

The lessons outlined below contain the topics that should be covered in the initial training. The exact order may vary from DZ to DZ.

a. RAPS Method:

- (i) The Traditional/RAPS method of learning to skydive starts with a static line parachute jump. This jump provides only the opportunity to exit the aircraft and assume the proper body position.
- (ii) The student may then move on to practice ripcord pulls, before being permitted to go onto free fall after a minimum of five jumps.
- (iii) Further progression is made by successfully completing the exit, assuming a proper body position and executing the actual ripcord pull within five seconds, then ten seconds. During these fleeting exposures to free fall the student also may have to deal with a phenomenon known as 'sensory overload'. It is the rush of stimuli to the senses that overloads the system and distorts a person's perceptions.
- (iv) The student then learns how to make turns, back loops and track while falling by him / herself for periods of around 30 to 40 seconds. Throughout this entire phase the student is usually observed from the ground or air, without any in-air coaching.

b. **Accelerated Free Fall Method:**

- (i) In the Accelerated Free Fall method a student is shown stability and practices it with direct assistance within a larger time frame. He or she may still experiences sensory overload, but has the opportunity to overcome it. It usually takes about five seconds. Then practice pulls and the actual ripcord pull are made and direct assistance is provided when necessary. More learning takes place faster, with fewer jumps and with less exposure to opening and landing problems.
- (ii) The student progresses through eight levels at his or her own learning pace.
- (iii) The skills required for exiting and falling, with stability and control, are practiced and developed through intensive ground training and direct in air supervision.
- (iv) As the student gains awareness in freefall, the complexity of the exercises increases. The student will learn how to control turns, backloops and tracking during the 8 levels.

N.B. Throughout this manual the method of deployment refers to the ripcord. Some clubs/organisations use an 'accepted' throwaway deployment system. Therefore, deployment sequences/methods will differ.

2. Orientation.

Note: Level 1 is an introduction to the Sport of Skydiving and may be the person's first jump.

- a. Documentation – BPA Membership and all relevant documentation.
- b. Airfield discipline and local regulations.
- c. Outline training syllabus.
- d. Show any video or photos, etc on AFF.
- e. Show aerial photos on Airfield and visit airfield.

N.B. BPA Provisional membership is valid for AFF Level 1 only, following which the student must convert to full membership, unless he/she has taken out Temporary (one month) or Full membership.

3. Equipment Familiarisation

- a. Show rig and demonstrate features – 3 ring, ripcord etc.
- b. Show accessory equipment – gloves, suit, alti, helmet, etc.
- c. Put rig on – show students how to do a “hands on” safety check.
- d. Deploy canopy and demonstrate ‘nuisance factors’.
- e. Reserve deployment – explain / show differences.

N.B. Spend time on how to operate, not on how to design, build or maintain equipment.

4. Stability and Practice Pulls.

- a. Explain the theory of stability – use model.
- b. Explain the neutral position – stress the necessity for arching on exit, then maintaining neutral position during jump.
- c. Demonstrate practice pull – allow student to practice.
- d. Put rig on – student practices stable position and practice pulls and performs an “Actual Pull” on the equipment he/she will be using.

5. Aircraft Familiarisation.

Note: Exit procedures, seating position and emergency procedures will vary according to the aircraft type. However, it is important that during exit at least one Instructor maintains positive control with a HARNESS GRIP on the student and assist as necessary.

- a. Explain the A/C type and seating positions.
- b. Climb to altitude procedure.
 - (i) Protect Handles.
 - (ii) Instructors are in control.
 - (iii) Mental rehearsals on climb to altitude, using key altitudes as a reminder.
 - (iv) Student verbally relates jump to instructors.
 - (v) Final equipment check.
 - (vi) Climb-out procedures.
 - (vii) Hotel check (check in – check out).

6. Aircraft Emergencies.

Note: The Instructors are in control, Student listens to them for instructions.

Emergency

Forced Landing

Low Altitude (Below planned opening height)

High Altitude Exit (Above planned opening height)

Premature Deployment

Action

Brace up – Exit away from prop once aircraft has stopped moving.

Solo exit, or exit with 1 or both Instructors and pull immediately.

Normal AFF launch, continue with the jump as normal.

Smother, or immediately follow canopy out of door.

N.B. Mention the need to switch off AAD (if practicable) if descent in Aircraft is necessary.

7. Level One (Dirt Dives Including “IN AIR EMERGENCIES”)

- a. Explain and Dirt Dive level one jump. Practice until perfect.
- b. Cover “In air emergencies”.
 - (i) Exit funnels – student arches.
 - (ii) Loss of one instructor – student takes signals from another.
 - (iii) Loss of both instructors (alone in free fall) – Arch, Reach, student pulls immediately.

8. Canopy Opening and Control

As an aid, use photographs and/or video.

- a) Explain Flight Characteristics of Main and Reserve Parachute
- b) Explain Wind Drift Determination.
- c) Flight drills. (Use suspended harness at some stage)
- d) Check canopy
- e) Control Checks (nuisance factors)
- f) All round observation (check airspace / locate PLA)
- g) Clear Hazards
- h) Canopy exercises
- i) Left and right 360° turns

- j) Practice flare
- k) Assess Drift
- l) Landing Pattern

N.B (1). Stress importance of landing with canopy in level flight, preferably into wind.

N.B (2). Mention Ground to Parachutist Radio and Canopy Landing Aids.

NB (3). Bear in mind that at some stage during progression jumps, or during consolidation jumps, the student will need to be introduced to the Canopy Handling (CH) Manual, as he/she will need to obtain CHI prior to being signed off for an FAI 'A' Certificate.

9. Canopy Malfunctions and Emergency Procedures.

Inform the student that malfunctions are a real possibility, although rare. The actual malfunction procedure you teach will depend on your CCI. However, in the event of a malfunction, or being unable to deploy main, initiate Emergency Procedure (**IMMEDIATELY**) in accordance with club rules.

- a) Mention floating handle and hard pull, (or problems with throwaway pilot chute, if used).
- b) Accidental reserve deployment under main.
- c) Entanglement Procedures – stress checking canopy
- d) Mention control checks
- e) Stress importance of cutting away at a **SAFE** altitude

PRACTICE EMERGENCY DRILLS IN **SUSPENDED HARNESS** UNTIL SMOOTH AND EXACT.

10. Landings.

Flat and level.

Into wind flared landing practice, (Do not flare too quickly).

Standard PLF Training (Good Landing Position)

- a) Prepare to land. Stand up and collapse canopy
- b) Practice on the ground and from platforms or fan trainers.
- c) Flaring too high / too low

11. Abnormal Landings – Teach how to avoid, (High up)

- a) WATER – teach whatever is appropriate to your Club. Remember AFF Rigs use a Reserve static line (RSL).
- b) ELECTRICITY CABLES.
- c) BUILDINGS
- d) TREES
- e) ROADS AND RUNWAYS

Most abnormal / hazardous landings can be avoided if student “steers away” beforehand. Stress a crosswind or downwind landing is preferable to landing on a hazardous object, and avoid fixating on the hazard (“look away”).

On completion of ground training the student must take a written exam, as an aid to determining his/her comprehension of the training and to ensure that nothing has been missed by the instructor. This exam must fully reflect the course content and procedures taught by the AFF School that the student will be jumping with. Students must undergo a minimum period of 6 hours of actual ground training, not including pre-jump revision / dirt-dive.

LEVEL 1 - FREE ARM (BPA Ops Manual, Section 2, para 5.1)

Personnel required: Two AFF Instructors

Learning Objectives for each level – Standard and Emergency

Note: Emergency procedures and all learning objectives should be reviewed in accordance with the BPA Operations Manual, Section 5 para 3, and where applicable, before each jump.

- a. Concept
- b. Equipment Familiarisation
- c. Aircraft Familiarisation
- d. Exit/climb out procedure
- e. Exit and jump
- f. Canopy opening and control
- g. Landing procedure

1. Learning Objectives

- a. Exposure to continuous free fall
- b. Heading awareness
- c. Focused awareness and attention
- d. Co-ordinated body movements from free arm to practice pulls
- e. Altitude awareness
- f. Actual ripcord pull by 5,000 ft.

2. Procedures – before jump.

- a. Question and answer session with student – general
- b. Using DZ photos, brief for expected exit and opening points

3. Rehearsal.

- a. Emphasise arch – pelvis pushed forward, head back, arms and legs bent, point toes.
- b. Student and both instructors walk through the entire jump until smooth and exact
- c. Full dress, dirt dive
- d. Student may actually pull main ripcord again
- e. Do a complete equipment check prior to boarding the aircraft
- f. Climb to altitude procedure and last equipment check

4. Jump Sequence (A Guideline)

- a. Student demonstrates awareness – circle of awareness (HASP – Heading, Altitude, Secondary, Primary) and proper body position
- b. Instructors agree to release arms
Student does practice pulls – Instructors may assist as necessary (another circle of awareness may be done here) and free time
- c. Instructors may re-grip arms by 5,500 ft
- d. Student demonstrates awareness – ‘clocks on altimeter’
- e. Student signals “5-5” and initiates pull.
Primary ensures pull by 5,000ft and an instructor monitors pilot chute and canopy deployment

If possible land with or near the student, providing orientation and guidance. Have the student clear ears after opening and during the descent.

5. Debriefing.

- a. Act it out – Students version first, Instructors second, video (if used) third.
- b. Give student additional training to correct weak areas and preview the next jump. Be constructive.
- c. Fill out students' log and DZ records – indicate level for next jump.

LEVEL 2 – FREE ARM – PLUS (BPA Ops Manual, Section 2, para 5.2)

Personnel required: Two AFF Instructors

1. Learning Objectives.

- a. Maximum free arm time
- b. Practice pulls as required
- c. Heading awareness
- d. Relaxed body position throughout the entire free fall
- e. Solo pull by 5,000'

2. Procedures.

- a. Review previous jump and discuss problems
- b. Refresh previous training and give additional training with emphasis on learning objectives
- c. Using DZ photo, discuss where to climb out, exit point, opening point, landing point

3. Rehearsal.

- a. Informal – with emphasis on relaxed control, relaxed position, heading awareness, observation of canopy deployment.
- b. Dirt Dive, standing/horizontal. Full Dress – Dirt dives, talk through, walk through, then silent dirt dives.
- c. Do a complete equipment check prior to boarding the aircraft. Climb to altitude procedure and last equipment check.

4. Jump Sequence (A Guideline)

- a. Student demonstrates awareness and proper body position.
- b. Instructors agree to release arms.
- c. Student makes circle of awareness, followed by practice pull.
- d. Instructors, if possible, hold harness grip with no tension, secondary can release if appropriate.
- e. Student initiates pre-pull signal.
- f. By 5,000' student pulls on own altitude awareness.
Land with or near student if possible.

5. Debriefing – standard

LEVEL 3 – RELEASE DIVE (BPA Ops. Manual, Section 2, para 5.3)

Personnel required: Two AFF Instructors

1. Learning Objectives

- a. Practice pulls (optional)
- b. Heading maintenance
- c. “Hover Control” by student. Give the student as much opportunity as possible to fall unassisted.
- d. Solo pull by 4,500 ft.

2. Procedures

- a. Review and discussion.
- b. Refresher and new training – alter students' in-air emergency procedures to accommodate intentional release. Mention level 2.

3. Rehearsal

- a. Informal – with emphasis on leg awareness, heading and “hover”. Student practices corrective moves to maintain heading and horizontal position.
- b. Student pulls on own altitude awareness primarily by 4,500 ft .
- c. Full dress dirt dive emphasising body control.
- d. Do a complete equipment check prior to boarding the aircraft.
- e. Climb to altitude procedure and last equipment check.

4. Jump Sequence (A Guideline)

- a. Student demonstrates awareness and proper body position.
- b. Instructors agree to release arms.
Instructor may require Student to do one practice pull (determination based on Students history and interval since last jump), and/or click heels together.
- c. Instructors agree to release.
- d. Instructor 2 releases on signal from Instructor 1, and stays to side of student.
Instructor 1 releases grip and stays in position ready to immediately re-grip or correct body position.
- e. Student to carries out pre-pull signal to show altitude awareness and pulls by 4,500 ft.
- f. Instructors must be alert to assist in the event of student spin or loss of stability.

5. Debriefing - standard.

LEVEL 4 – START ND STOP TURNS (BPA Ops manual, Section 2, para 5.4)

Personnel required: One AFF Instructor

1. Learning Objectives

- a. Start and stop turns
- b. Wave Off (may be introduced, if not already)
- c. Solo Pull by 4,000ft on own altitude awareness

2. Procedures

- a. Review and discussion.
- b. Refresher and new training.

3. Rehearsal

- a. Informal – exit may be changed, e.g. climb-out, if so encouraged to be unassisted, but
- b. Instructor maintains control.
- c. Explain relative wind and its relation to the ground.
- d. Explain use of arms to turn.
- e. If introducing wave-off to pull procedure (start at about 500ft above pull height). Pull by 4,000 ft or on own altitude awareness.
- f. Full dress rehearsal; go through entire dive.
- g. Equipment check prior to boarding the aircraft.
- h. Climb to altitude procedure and last equipment check.

4. Jump sequence (A Guideline).

- a. Student demonstrates awareness and proper body position,
- b. Instructor releases student.
- c. Student performs turn, checks altimeter.
- d. Repeat for turn, observing student altitude awareness. No more turns performed below 6,000 ft. Student, if in good position, can fall non-contact until pull.
- e. Student pulls by 4,000 ft.

5. Debriefing - standard.

LEVEL 5 – ALTERNATE 360° TURNS (BPA Ops Manual, Section 2, para 5.5)

Personnel Required: One AFF Instructor.

1. Learning Objectives.

- a. 360° turns.
- b. Control of axes

2. Procedures.

- a. Review and discussion.
- b. Refresher and new training

3. Rehearsal.

- a. Informal - with emphasis on turns using arms with legs neutral.
- b. Axis control - drag is controlled with arms and legs.
- c. Student waves-off before pulling.
- d. Equipment check prior to boarding the aircraft.
- e. Climb to altitude procedure and last equipment check.

4. Jump sequence (A Guideline).

- a. Instructor still maintains control of student on exit.
- b. Student demonstrates awareness and proper body position.
- c. Then student demonstrates circle of awareness and takes a ground heading. Instructor releases and moves back.
- d. Student performs 360° turn, followed by alti check
- e. Student turns 360° in opposite direction, then checks altimeter.
- f. Student pulls by 4,000' on own altitude awareness.

5. Debriefing - standard.

LEVEL 6 - SOLO DIVE (BPA Ops Manual, Section 2, para 5.6)

Personnel Required: One AFF Instructor.

1. Learning Objectives.

- a. Solo exit.
- b. Sub-terminal control.
- c. Recovery from unstable position (Backloop attempts).
- d. Tracking.

2. Procedures.

- a. Review and discussion.
- b. Refresher and new training.

3. Rehearsal.

- a. Solo exit if appropriate. Climb out unassisted. Exit with no contact. Maintain arch and heading. Stability recovery if necessary. Hook-up optional.
- b. Attempt Backloop
- c. Track position for tracking, flare, wave-off and pull by 4,000 ft.
- d. Equipment check prior to boarding the aircraft.
- e. Climb to altitude procedure and last equipment check.

4. Jump sequence (A Guideline).

- a. Student exits.
- b. Student recovers stability if not maintained.
- c. Student attempts backloop, checks alti and may attempt second backloop followed by an alti check.
- d. Student completes short track and flares by 5,000 ft, waves-off and pulls by 3,500 ft. No tracking to commence below 7,000 ft.
- e. Student to maintain heading between exercises

7. Debriefing - standard.

LEVEL 7 - HALF SERIES PLUS (BPA Ops Manual, Section 2, para 5.7)

Personnel Required: One AFF Instructor

1. Learning Objectives.

- a. Diving exit.
- b. Backloop, left turn, right turn.
- c. Track

2. Procedures.

- a. Review and discussion.
- b. Refresher and new training.

3. Rehearsal.

- a. Exit may vary with different type of aircraft.
- b. Backloop, left turn, right turn.
- c. Track. Track turns.
- d. Equipment check prior to boarding the aircraft.
- e. Climb to altitude procedure and last equipment check.

4. Jump Sequence.

- a. Student does diving exit.
- b. Student maintains heading and stability and then performs Backloop, left turn, right turn.
- c. Student tracks as necessary and performs track turn -waves off and pulls by 3,500ft.

5. Debriefing - standard.

LEVEL 8 - SHORT DELAY (BPA Ops Manual. Section 2, para 5.8)

Personnel Required: 1 AFF Instructor.

1. Learning Objectives.

- a. To exit A/C in stable position and to pull within 10 seconds.

2. Procedures.

- a. Review and discussion.
- b. Refresh and new training.
- c. Spotting discussion.
- d. Equipment check.
- e. Climb to altitude procedure and last equipment check.

3. Jump Sequence.

- a. Student exits and pulls in a stable position, within 10 seconds from a minimum altitude of 4,500 ft.

Note: On completion of level 8 and 10 successful consolidation jumps the student will be awarded BPA Category 8.

Consolidation jumps should be used to introduce any skills not covered (eg track turns, unstable exit) and to fine-tune those skills already learnt.

RESPONSIBILITIES

1. Instructor 1 (Primary) Level 1 - 7

- a. The Instructor has the responsibility of reviewing all previous training. This is done by covering each aspect of the skydive, including emergencies, thorough explanation and through questions and answers. The longer it has been since the previous jump, the more the student is likely to have forgotten.
- b. Review the previous dive. Reinforce the satisfactory portions and discuss the problems encountered, with an explanation and practice of the proper procedures.
- c. Introduce the learning objectives:
 - (i) The first step is to explain and demonstrate using the appropriate description(s) and training aids.
 - (ii) The second step is to go through rehearsals using an aircraft mock-up and a bench or horizontal suspended harness to develop proper timing and co-ordinated body movement.
 - (iii) Go through full dress rehearsal or dirt dive until the student is smooth. Also use the actual aircraft (if possible) just prior to boarding.
 - (iv) Do a complete equipment check prior to boarding. Be aware of problems with specific types of gear.
- d. Supervise the jump, encourage self-reliance.
 - (i) Point out the PLA and pertinent landmarks during the climb.
 - (ii) See the student goes through mental rehearsals on the way to altitude.
 - (iii) Before the jump run, (about 8,000ft, allow enough time) have the student describe the sequence of events planned for the jump, and then do a final equipment check.
 - (iv) Assist the exit as necessary.
 - (v) Assist as required in Free Fall.
- e. Get horizontal separation and then open as soon as possible.
- f. Conduct a post-jump debriefing and critique.
 - (i) Have the student act out his/her perception of the jump.
 - (ii) Explain what the Instructor saw and act it out. Build on good points before discussing problem areas.
 - (iii) View video or get a third point of view if possible.
 - (iv) Provide additional training to improve weak areas and familiarise student with next jump.
 - (v) Complete logbook record and other paper work

2. Instructor 1 Level 1 - 3 (Primary side)

- a. Give the student OK to start exit sequence (depending on type of aircraft).
- b. Maintain harness grip until the main ripcord has been pulled, except on level 3 during release.
- c. Reach agreement with and signal Instructor 2 to release on level 2 / 3.
- d. Monitor right arm during practice pulls - assist as necessary.
- e. Signal student to pull main ripcord - assist as necessary. Students' ripcord must be pulled by 3,500 ft or higher.

- f. Get adequate horizontal separation and pull as soon as possible to provide orientation and landing direction for student under canopy. Land with student if practical.

3. Instructor 2 (Secondary) Level 1 - 3

- a. Assist Instructor 1 with rehearsal and dirt dive.
- b. Physically control student during climb out (inside Instructor).
- c. Give the command for student to get in door (depending on type aircraft).
- d. Give student an OK when you are in position to exit the aircraft and having checked with other Instructor.
- e. Maintain harness grip at all times except:
 - (i) If there is loss stability and you are not contributing to the recovery.
 - (ii) When signalled by Instructor 1 to release.
- f. Monitor left arm during practice pulls - assist as necessary. Monitor legs.
- g. Maintain harness grip during pull and ensure deployment of pilot chute and canopy.
- h. Pull secondary main deployment handle, or reserve handle if appropriate in an emergency situation.
- i. Get horizontal separation and pull above 2,000 ft.
- j. Back up Instructor 1 while student is under canopy.
- k. Assist in post-jump debriefing.

3. All Instructors

- a. Supervise students' activities and progress throughout the entire course.
- b. Supervise Instructor activities both in the air and on the ground.
- c. Provide ground training. No more than three students on any one course.
- d. Maintain the students' records

QUALITIES OF AN ACCELERATED FREE FALL INSTRUCTOR

1. Introduction

Accelerated Free Fall Instructors are required to work in a one-on-one situation. Their job is to provide private instruction, similar to that which you can get from Tennis pro to a Ski Instructor. The fee for this type of instruction is relatively high and the Instructor must deliver value for money. Your primary guideline must always be: if the student did not learn, then the instructor did not teach.

Below are six basic qualities that are necessary to be a qualified Accelerated Free Fall Instructor. You must have the Attitude, Experience, Proficiency, Knowledge, Judgment and Responsibility that are required in order to be a safe and effective Free Fall Instructor.

2. Qualities

- a. **ATTITUDE** - Your attitude must display the highest degree of professionalism and dedication. You must be prepared to put all your effort into getting the job done properly. This often means setting your own personal feelings and desires aside. A good attitude also means dealing with adversity in a positive and cheerful manner. It also means maintaining good personal appearance and hygiene.
- b. **EXPERIENCE** - Experience, both as a jumper and as an Instructor, is the best teacher to prepare you for the responsibility of this job. While not mandatory to become a full Category System Instructor, experience in dealing with static line students is invaluable. General experience can only be gained by going out and jumping, no specific number of jumps or Free Fall time ensures that you have an adequate amount of experience, but you should become a successful formation skydiving jumper capable of organising successful loads. Experience may be gained, first by jumping with capable skydivers acting as students, and then under proper supervision with more advance novices (doing WARP) and Accelerated Free Fall Graduate students. It requires experience to exercise good judgment and to anticipate events before they happen.
- c. **PROFICIENCY** - It is a requirement to have a high degree of proficiency, to have the skill necessary to get the job done safely. Formation Skydiving competitors develop the same kind of awareness and quick reactions that it takes to stay in control of a student free fall jump. You must be able to consistently fly a three-way or four-way from exit, from the type of aircraft used for your students. Your exits need to be consistently stable and under control and you need to have developed the ability to recover and regain stability with an exit that has funnelled. You must have the ability to fly close with no contact and be able to spot under adverse conditions.
- d. **KNOWLEDGE** - No one can teach something they don't know. You need a thorough knowledge of the Accelerated Free Fall programme and the specific methods of instruction. You must be thoroughly familiar with the equipment being used and with the procedures used in your aircraft by the pilot.
- e. **JUDGEMENT** - Good judgement is exercised by using your experience and knowledge to make decisions. Good judgement is needed to keep everything in the proper perspective. It is used to make prudent decisions that have long term goals and overall success as the first priority. You use judgement to determine if your student is fully prepared to make the jump that is planned. You use judgement to quickly execute the proper procedure in an emergency.
- f. **RESPONSIBILITY** - Responsibility is the requirement, both legally and morally, to conduct the training and jumping of your students in a safe and competent manner. You must ensure that they understand the situation that confronts them, and that they understand how to handle it. You have the responsibility to determine that they are fully prepared for each jump and that they receive the

calibre of Instruction that they have purchased. You also have a responsibility to yourself, physically or legally, regardless of what happens.

3. Summary

- a. If you have not developed all of these qualities, then go out and work on them. If you have all of these qualities then you already know how to continue to develop and improve them.
- b. Achieving these qualities once is not enough either; every time you work with an Accelerated Free Fall student you must ask yourself "Am I currently proficient?", "Am I using good judgement?" and so on. It is your responsibility to maintain your proficiency and regain your currency after a layoff from jumping, before jumping with students.

EQUIPMENT

Students

a. Rig

- (i) Any student equipment used for AFF must meet the same basic requirements as all other equipment designed for student use, as laid down in the BPA Operations Manual. In addition, the main canopy must be able to be deployed from both the primary and secondary sides of the container.
- (ii) Main canopy - A large docile canopy is required. A maximum loading of 0.8 lbs/sq.ft is mandatory for “ab initio” students, and 0.85 lbs/sq.ft for all others.
- (iii) Reserve canopy - the reserve canopy should be steerable and compatible with the students weight. Manufacturer’s recommendations should be followed where appropriate.
- (iv) Riser releases - single point 3-ring type is mandatory. Large rings are mandatory.

b. Ancillary Equipment

- (i) AAD - The students reserve must have an AAD and RSL. These are back-up devices, which increase the safety margin.
- (ii) Instruments - The student must have his/her own altimeter. Worn in a suitable place. Altitude awareness is stressed throughout this course.
- (iii) Jumpsuits - should be appropriate to the students' size and weight and should be fitted with grips.
- (iv) Helmet – A hard open-faced helmet is mandatory. It should provide adequate frontal and side protection, without interfering with field of vision.
- (v) Gloves - due to the high altitude and the extended time in Free-Fall, students should wear gloves whenever necessary to protect their hands from the cold.
- (vi) Goggles - It is necessary for the students to wear clear goggles that fit their faces and are tight enough to stay in place throughout the jump. The goggles should not interfere with field of vision and especially should not obscure the student’s view of the ripcords/pads.
- (vii) Have the student remove jewellery, rings, bracelets, large earrings, necklaces, etc. Ensure that long hair is stowed under the helmet. Jewellery or long hair can be snagged especially during the exit or deployment causing injury to the jumper.
- (viii) Ground to Parachutist Radios must be used for at least the first three jumps. If using a ‘free fall radio link’ between the instructor and student, hand signals must still be taught, in case of radio failure.
- (ix) Teach the student how to perform an equipment check. By the time he/she reaches level 8 the student should be capable of performing an equipment safety check.

c. Instructors - as defined previously

- (i) Your equipment should be properly maintained to reduce the possibility of premature deployment. Set a good example.
- (ii) Instruments - Altimeters are mandatory for each Instructor. Audible altimeters are also mandatory, and an AAD is a good idea.
- (iii) Jumpsuits - Instructors should wear jumpsuits/clothing that give them the range of control necessary to stay with the student.
- (iv) Helmets are mandatory. Thought should be give to wearing a hard helmet, as an unconscious Instructor cannot do his/her job.
- (v) Goggles - Instructors should wear goggles / visors that provide a clear field of vision, and allow good eye contact and communication between student and Instructor.
- (vi) Gloves - It is wise for the Instructor to wear gloves to give him / her the extra protection and strength that may be necessary to maintain his / her grips.

PROGRESSION CRITERIA

1. Standard

The student is ready to progress to the next level when both the Instructor and the student agree that all the previous learning objectives have been met, and the student is prepared to accept the challenge of the next level. Often a student will ask to repeat a level that he feels was not performed well enough. (Review the learning objectives of levels 1 -8 and discuss the minimum performance required for each objective).

2. Re-currency

It is necessary to consider the students' previous history, the amount of time since the last jump and the particular level being considered, and then exercise good judgement. For example, if the student has a history of weak exits, hasn't jumped for a month, and has been cleared to level 3, you may want to require an additional jump at level 2 before allowing him or her to advance.

Revision and Re-currency rules laid down in the BPA Operations manual apply to all students / intermediate jumpers, regardless of their method of training.

Continuing Education (After Consolidation Jumps)

All subsequent jumps are likely to be made for FS1 training. As the student has gone through this course, he or she has learned lessons that should be applied on each future jump. Apply these principles especially on jumps during which the jumper is using new gear, a different type of aircraft, a different aspect of skydiving etc. The principles are summarised in four basic rules that should be applied to each and every jump:

- a. Have a specific plan.
- b. Make sufficient preparation - dirt dives, suspended harness, etc.
- c. Maintain awareness.
- d. Exercise basic safety precautions.

Graduate students will still need supervision and additional training and must complete 10 consolidation jumps at a club where regular AFF training takes place before being awarded Category 8. They must also obtain CH1 before being awarded an FAI 'A' Certificate.

EFFECTIVE TEACHING METHODS - ACCELERATED FREE FALL

1. Preparations

It usually takes about half an hour more of dirt diving to prepare students for each jump. The first step is to take them and all of their gear, and your gear to the training area. Check their log or your records and discuss how to strengthen their weak areas, or overcome the problems that they have experienced on previous dives. Explain to them first in general, and then one-step at a time, the learning objectives. Use the appropriate training aids. A video of the planned dive is very helpful.

Demonstrate each step and then practice it with them. Alternate between the aircraft mock-up and the horizontal trainer until students show co-ordinated execution of the required movements and you are sure that they understand what to do and that they know what to expect. During this phase of the training, stress the importance of simulating the conditions and events of the jump mentally. Initially each dirt dive will take longer than the actual jump. Work until the dirt dive is done at "real time". A person who thinks that he/she will do poorly usually does, and one who visualises doing something well, has a lot better chance of performing well.

At this point it is usually helpful to give the students a short break and then everyone on the jump should gear up for a full dress rehearsal.

For level 1, the students should put on their helmets, goggles and gloves and then practice the exit. They should also actually pull their main ripcord (if they have not previously done so), and then practice the jump. When everyone is fully prepared for the jump, go to the loading area. Dirt dive again using the actual aircraft (if possible). The Instructor should make a complete equipment check. Then board for take off.

Remember; as part of any progression training, revision/instruction of emergency drills and procedures must take place.

2. Climb to altitude

During the ride to altitude, point out the PLA. Instruct the student to mentally rehearse the dive. Prior to the jump run (approximately 8,000ft), have the student explain to you the sequence of the events planned for the jump. Then do another equipment check.

3. Instruction of Free Fall

In addition to being part of the safety system, it is part of your job to ensure that learning takes place in Free Fall. You can communicate with the student and make immediate corrections so that Free Fall time is not being wasted.

Most communication is centred on eye-to-eye contact. You can use verbal and hand signs to make corrections. Signals and directions for the most common situations should be discussed during preparations. This will enable the student to more quickly realise what you are trying to say. Sometimes a tap on the head can be used to get the students attention. If using a 'freefall radio link' to talk to the student in freefall, hand signals must still be taught, in case of radio failure. Body position can be adjusted by moving an arm or leg when it is out of place. Generally, shaking the students arm should be used to attract attention for the "pull" signal.

Demonstrations in Free Fall, such as backloops, tracking etc, may aid the learning process and increase the students understanding. As long as learning takes place, progress is made.

4. Post jump critique

After returning to the DZ, take off the gear and then dirt dive / talk through the entire jump, having the student explain what he or she saw and felt. Next the Instructor should describe the jump, first covering the satisfactory aspects and then the weak points. It is helpful to view the video now if it is available. Explain how to correct the weak areas.

The final step is to fill the student's log. Briefly describe the jump, mentioning any weak areas. Indicate if the student can go on to the next level, or if he/ she should repeat that level. It is also encouraging to the student to emphasise areas that were performed well. Student logbooks must be filled in comprehensively. This will enable the next instructor to judge what training is required. Log book entries should include details of performance during the exit phase, communication, response to signals, performance of free-fall exercises, altitude awareness, pull, canopy control and landing.

TRAINING AIDS

Visual Aids - Posters, Slides, Video, Power Point etc.
Aircraft mock-up or actual aircraft.
Suspended harness with toggles and steering lines.

Rig and accessories.
Horizontal trainer/harness, bench or ground.
PLF Platform.

1. Introduction

It is necessary to use training aids to make the learning process more realistic and efficient. There are a variety of options in each category. It would be very difficult to do a good job of training without using most of these training aids.

Posters, videos and slides etc are used to illustrate the points and procedures that you are explaining.

2. Visual Aids

One of the best ways to help students understand what they will experience, and what will be expected of them is to show videos of the Accelerated Free Fall method. Video is a valuable tool used to document and critique the students' performance. After discussing the students' perception, and the Instructors' perception of the jump, it can be enlightening to all concerned to review the video (one eye and it doesn't lie). Video can be used in Free Fall or from the ground, although Free Fall video gives better perspective. Also, promotional activities can be greatly enhanced with video.

3. Equipment

It helps the student to become more familiar with the equipment and its operations, to wear it and see it deployed during the training. Full dress dirt dives are essential for a properly prepared jump. An AFF equipment jacket is also a useful piece of equipment.

4. Aircraft

Aircraft procedures, both routine and emergency, climb out and exit procedures need to be practiced. The use of an aircraft mock-up reduces the amount of practice time that must be spent in the actual aircraft. The more complete and realistic the mock-up, the less time must be spent using the aircraft for practice.

5. Horizontal Trainer

It is necessary to use some form of horizontal training device, to permit the student to assume the proper position in relation to the ground and have freedom of movement of both arms and legs. A lot of drill time is spent developing smooth co-ordinated body movements using a horizontal trainer. This aid can be a suspended harness, or it can be a bench or table. In the most rustic situations it can even be a blanket on the ground.

6. Suspended Harness (Mandatory)

A vertical suspended harness is invaluable in teaching malfunction and hazardous landing procedures and is a great aid in teaching canopy control. The harness can be elaborate, complete with ripcord, steering toggle and elastic steering lines, or it can be as simple as a set of hanging risers to which the actual rig is attached.

7. PLF Platform

A PLF Platform is a standard device used to teach landings.

Note: When designing and constructing training aids, care should be taken to ensure that they are not unrealistic or misleading, as that can defeat their purpose. Proper maintenance should also be carried out to ensure that training aids remain safe and suitable for student use.

RECORD MAINTENANCE

1. Introduction

Keeping and maintaining records is an essential step in upholding the quality of your training programme, and in assuring the success of the Accelerated Free Fall Programme.

Records of each student and his/her experience can be used to pinpoint any areas in your operation that should be improved. By compiling reports from all Accelerated Free Fall schools, the BPA can monitor the success of the programme and develop improvements on a timely basis.

Detailed records can provide you with a great deal of liability protection should anyone ever try to sue you. If you have documentation of each student's classes and progress, you can use this information to demonstrate your responsibility.

Periodic summary reports will be used to maintain the standards of the Accelerated Free Fall rating system.

2. Accelerated Free Fall Programme Report Card (Appendix A - A Suggested Format)

- A. Enter the name, address and phone number of the student.
- B. Enter the students' personal details.
- C. List occupation.
- D. Previous history - List any prior jumping experience. List any pertinent activities in which the student has experience such as aviation, sports etc.
- E. Enter the name, address, phone number and relationship to the student of the person to notify in case of an accident.
- F. Enter the Instructors name.
- G. Enter the date that the student successfully completed ground school.
- H. Enter the name of the person approving his/her graduation.
- I. Enter the date the student graduates from the Accelerated Free Fall course.
- J. Enter the dates that the student obtained an Approved Packing Certificate, and the name of the person approving him/her to pack without supervision.
- K. Additional space is provided to record subsequent training, such as transition to more advanced gear, night jumps etc.
- L. Jump Log - to be filled out by the Instructor after each jump (This page can be separated after graduation and fitted into a precision Free Fall type logbook).
- M. Enter the number of the jump and the level to be performed.
- N. Enter the date of the jump.
- O. Enter the name(s) of the Instructor(s).
- P. Enter the amount of Free Fall time.
- Q. Enter an evaluation of the students' performance. Note everything that the next Instructor should know. Rate the student on exit, performance of targeted learning objectives and canopy control.

3. Summary Records (Appendix B)

- a. Each Instructor should log every Accelerated Free Fall jump he/she makes, noting the level and his/her position.
- b. The supervising Instructor should ensure that the summary record is kept up-to-date. Each Instructor may need to include this information with his/her rating renewal.
 - 1. Enter the name of each student trained.
 - 2. Enter the name of the Instructor.
 - 3. Enter the date ground school is completed.
 - 4. Enter the date each jump is made in the appropriate column.

5. Enter the date the student graduates.
6. Total up the number of students trained, the number of graduates.

DROP ZONE MANAGEMENT GUIDELINES

This section does not presume to tell anyone how to run his/her business, but is offered as friendly advice in an effort to promote successful AFF training operations.

1. Introduction

The Accelerated Free Fall Programme is a big step forward from the conventional training programme. Although you may encounter some logistical problems in implementing this programme, those problems can be minimised or eliminated with the proper organisation and pre-planning. The rewards of this programme will certainly make it worth your while.

2. Personnel

Instructors must be experienced and proficient F.S. skydivers holding current AFF Instructor ratings. They must be dedicated to their jobs, willing to put in the time and effort to properly prepare the student for each jump. They must be able to assume the responsibility that is in their hands every time they step through the door with a student - and that means being 150 - 200% aware all the time. If they don't do their job properly the safety and the success of the programme will be compromised.

3. Manifest

The manifestor needs to anticipate the programme requirements. It takes about half an hour or longer to prepare students to board the aircraft and they need a minimum altitude of 9,000 ft, though 12,000 ft is recommended.

The student will still require ground-to-air instruction under canopy, even though the Instructor will be in the air with them after opening.



ACCELERATED FREE FALL TRAINING RECORD

Name _____
 Address _____

 _____ Phone _____
 D.O.B. _____ Sex _____ Height _____
 Weight _____ Parental Consent _____
 Occupation _____
 Previous Para. Exp. _____
 Hobbies, Sports _____

Student No _____
 BPA No _____ Full/Provisional _____
 Med. Cert. Date _____
 Declaration of Fitness _____
 Indemnity _____
 Log Book _____
 Form of Payment _____

Person to notify in case of emergency:
 Name _____
 Address _____

 Phone _____ Relationship _____

Class	Inst.	Date
Ground School	_____	_____
Level 8	_____	_____
Cat 8	_____	_____
Packing	_____	_____
Throw Away Brief	_____	_____

Jump No.	Level	Date	Altitude	Cleared to	Inst.	Sig.	Remarks

**ACCELERATED FREE FALL SUMMARY
RECORD**

Dates From: To:

Student	Instructor	Ground School	Level							Graduation
			I	II	III	IV	V	VI	VII	