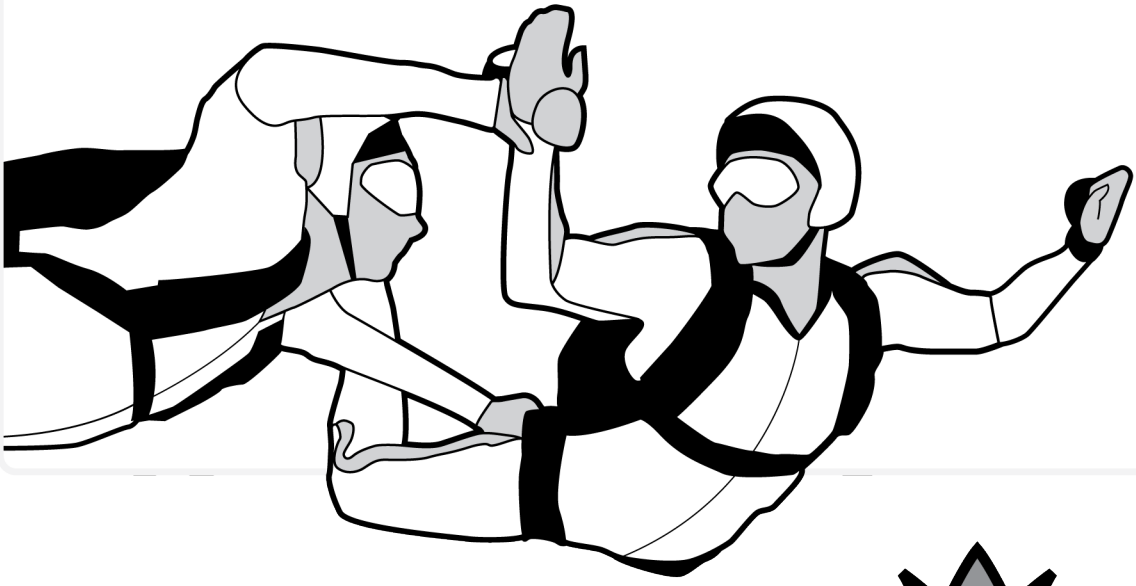
REFERENCE MANUAL

PFF INSTRUCTOR
PROGRESSIVE FREEFALL



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C.S.P.A.
Canadian Sport Parachuting Assoc.
Assoc. Canadienne de Parachutisme Sportif
A.C.P.S.

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Foreword

The Canadian Sport Parachuting Association is pleased to provide this PFF Instructor Manual as part of the overall Coaching program for sport parachuting in Canada.

This manual has been prepared on the basis of many years' experience in presenting Instructor programs across Canada. Adjustments have been made to the content and format of both the manual and clinic in order to ensure that the clinic participants receive the most effective learning experience possible. Considerable financial and human resources have been expended to refine the program to serve the needs of the skydiving community.

The PFF Instructor Manual was designed to assist Instructors to teach skydiving techniques to newcomers to our sport. Note that this manual contains some advanced teaching techniques and progressions; it is beneficial to both the beginner and the more experienced skydiving Instructor.

The Canadian Sport Parachuting Association (CSPA) Coaching Certification Program, developed by the Coaching Working Committee (CWC) has been one of the most significant developments in sport parachuting in the past 20 years. We sincerely hope that you will take full advantage of the benefits offered through both this manual and the certification courses offered for skydiving.

Disclaimer

The Canadian Sport Parachuting Association wishes the reader to note that this publication has been prepared for general information only. The publication of this information is not intended as a representation or warranty or guarantees that this information has been approved or tested by the CSPA or is suitable for any general or particular use by its readers. Readers are advised that the information printed herein should not be relied upon unless competent advice from a qualified/certified person has been obtained with respect to its suitability for a particular application.

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Acquisition of the skills necessary for the safe performance of sport parachuting activities is a process where self-instruction is neither recommended nor considered satisfactory. The same holds true of the process of acquiring the necessary skills for coaching or instruction of sport parachuting and skydiving techniques. Participation in training programs offered by individuals who have obtained a certificate from a recognized national organization to confirm that they are properly qualified is recommended whether you are learning the skills for the first time or learning how to teach the skills to others.

The procedures described in this manual are appropriate for Canada, as they reflect Canadian government regulations, CSPA BSR's and TR's (Basic Safety Rules and Technical Recommendations) and are applicable with the type of equipment, aircraft and facilities known to be used in this country. These procedures are not recommended for use in countries where regulations, rules, equipment and facilities differ from those in Canada.

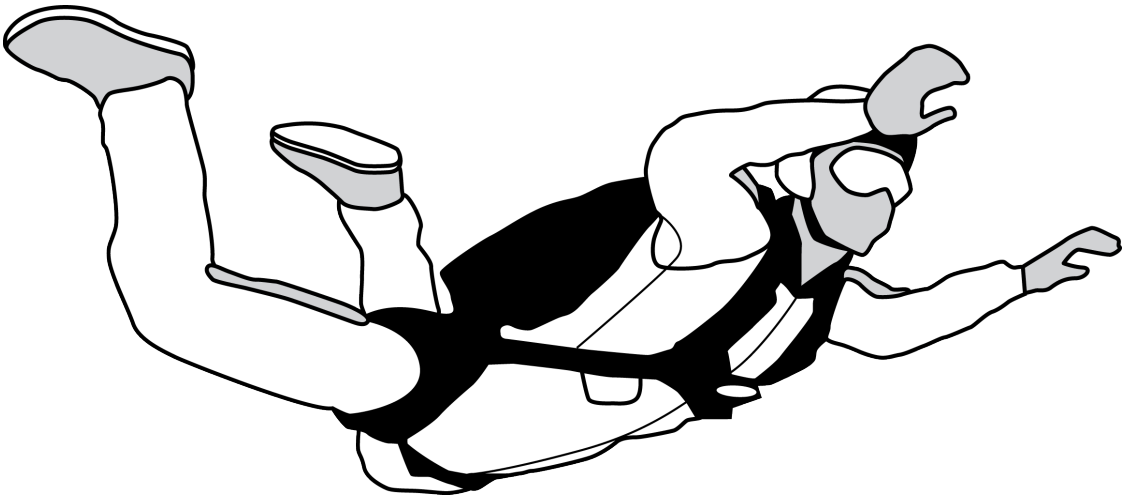
Acknowledgements

The Canadian Sport Parachuting Association (CSPA) would like to thank the following people for their contribution for the creation of this manual (version 2012).

This latest version of the PFFI Reference Manual was produced in 2012 by Mario Prevost, Master Course Facilitator and the CSPA Coaching Working Committee (CWC).

Mario Prévost, Text
Gabrielle Chabot, Correction
Scott McEown, English translation
Noémie Charest, Graphic design
CWC members

This latest version of the PFFI Reference Manual was edited in 2015/2016 by Daniel Grant for general grammar and language / translation errors.



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Module 1 Introduction and Overview

Introduction

The Progressive Freefall (PFF) Instructor training course allows candidates to familiarize themselves with the CSPA program whose objective is for the student to obtain the solo certificate. The training course for PFFI certification runs about 5 days and should, as far as possible, be made with equipment, aircraft and progression system in place at the candidates' dropzone. If successful, the candidate will receive a portfolio that to complete 25 PFFI jumps (20 jumps in 2:1 and 5 jumps in 1:1) accompanied AT ALL TIMES by a certified PFF Instructor that will enable him to obtain the final certification of PFF Instructor.

Course Preparation

Here is a list of activities that one should undertake prior to taking the PFFI course to help one to be well prepared. Intense preparation will help to maximize the chance of performing well and passing the CSPA PFFI training course and achieve this highly-demanded rating.

Reference Material

- Reference Manual PFFI (2016)
- PIM 1 (2012 or the latest published version)
- PIM 2A (2009 or the latest published version)
- Coach 2 Reference Manual (2009 or the latest published version)
- SSI Reference Manual or JM Reference Manual (2009 or the latest published version)

Tunnel Practice Training/Coaching Experience (Recommended)

- Maintenance of proximity
- Stability
- Skill analysis and the use of signals
- Inverted recovery
- Spin control (flat and inverted)

Practice Training jumps

- Exits: as a main-side instructor (MSI), reserve-side instructor (RSI), and 1:1
- Control and maintenance of: levels, proximity, quadrant flying
- Ability to give signals to a student, without moving, in control at all times
- Spin Recovery: Able to stop a flat spin
- Inverted Recovery: Able to return a student from inverted (back) to belly
- Able to stop an inverted spin

NOTE: The practice jumps must be done under the supervision of a Certified PFFI who is playing the role of the student. Under no circumstances are these jumps to be practiced with a student or a novice skydiver.

Introduction (...)

Materials to bring to the class

- Skydiving equipment
- Helmet: hard-shell (open faced strongly recommended as a PFFI)
- Audible altimeter
- Wrist-mount altimeter
- Chest-mount altimeter (recommended for use by student)
- Different jump suits to account for different fall rates (fast and slow)
- Weight belt or vest
- Video equipment (if you have previous experience as a camera flyer)
- CSPA Membership card (Current and showing active ratings)
- CAC NCCP CC# card
- Logbook(s) (Signed and up-to-date with jump numbers and freefall time calculated)

Pre-requisites and Privileges

Pre-requisites

Qualifications
- Coach 2 Certified (in hand)
- Jump Master or SSI Certified, or completed the pre-course journal
- Completed the GCI module (GCI certified recommended)

CoP completed : C-CoP (in hand)
Minimum number of jumps : 600
Minimum Freefall accumulated time : 6 hours
Wind Tunnel time : 2 hours (recommendation only)
Observed : 2 PFF first-jump courses in the past 1 year
Other : Current CSPA Membership Card

Pre-requisites and Privileges (...)

Privileges of the PFFI

- Participate in the PFF Program at a CSPA affiliated dropzone
- Give the entire First Jump Course ground school training for jumps if a Certified SSI; otherwise, can train the freefall portion of the PFF jump
- Supervise and perform PFF jumps
- Sign off the Solo Check-out Jump requirements

How to become PFFI certified (practical)

Certification PFFI for 2:1

Must be completed within 365 days following completion of the PFFI training course

- Must perform a minimum of 25 PFF 2:1 jumps with a Certified PFFI, with a minimum of 10 jumps in the roll of the Reserve-Side Instructor (RSI).
- Up to 5 jumps of these 25: 1:1 while directly supervised in freefall by a Certified PFFI for which:
  - » The student has demonstrated a high level of competence in freefall
  - » The student is on one of his last two jumps with instructor
- Complete and send in the GCI portfolio if not already a Certified GCI within the 1-year deadline,
- Complete and send in the PFFI portfolio within the 1-year deadline.

Note: It is recommended to team up with the same experienced and Certified PFFI for the first 10 jumps.

Maintaining Certification

To maintain certification, the PFFI must annually:

- Make at least 50 jumps
- Make at least 10 jumps as a PFFI

Re-certification

In order to re-certify this rating, the PFFI shall:

If expired for less than 5 years

- Perform 10 PFFI jumps with a Certified PFFI
- The first 5 are required to be 2:1

If expired more than 5 years

- Perform 2 evaluation jumps (see jumps prescribed for the conversion process)
- Write and Pass the PFFI Exam with a score of 80% or more

Course Schedule

Note: Course schedule may be modified to adjust for weather conditions or other factors, at the discretion of the Course Facilitator.

Day 1

Time	***Module***	***Informal Assessment***
9:00 – 9:30	Presentation Paperwork	
9:30 – 10:45	Module 1: Introduction and Overview	
10:45 – 11:00	Break	
11:00 – 12:00pm	Module 1: Introduction and Overview	
12:00 – 1:00pm	Lunch Break	
1:00pm – 6:00pm	**With Tunnel:** Exercises **Without Tunnel:** Jump 1 (FS Group) Jump 2 (FS3) Jump 3, 4, 5	Skills in flight Control skills Skills in flight Control skills Control skills
6:00pm – 6:30pm	Personal interview and recommendation for further study / improvement	

Day 2

Time	***Module***	***Informal Assessment***
8:00 – 8:15	Review of Day 1	
8:15 – 10:30	Module 2: The PFF Program	
10:30 – 10:45	Break	
10:45 – 12:00pm	Module 3: The PFF Instructor	
12:00 – 1:00pm	Lunch Break	
1:00pm – 2:00pm	Module 3: The PFF Instructor end	
2:00pm – 2:15pm	Break	
2:15pm – 6:00pm	**With Tunnel:** Jump 1, 2, 3 **Without Tunnel:** Jump 6, 7, 8	 Control skills Control skills

Course Schedule (...)

Day 3

Time	*Module*	*Informal Assessment*
8:00 – 8:15	Review of Day 2	
8:15 – 10:15	Module 4 Student Progress	
10:15 – 10:30	Break	
10:30 – 12:00pm	Module 5 Control Techniques and Abnormal Situations	
12:00 – 1:00pm	Lunch Break	
1:00pm – 3:00pm	**With Tunnel:** Jump 4, 5 **Without Tunnel:** Jump 9, 10	Control skills Control skills
3:00pm – 6:00pm	Module 6 Classroom Training	

Day 4

Time	*Module*	*Informal Assessment*
8:00 – 8:15	Review of Day 3	
8:15 – 2:15pm	Evaluation Jumps 1, 2,3	Formal evaluation grid
2:15pm – 6:15pm	Evaluation Jumps 4, 5	Formal evaluation grid

Day 5

Time	*Module*	*Informal Assessment*
8:00 – 8:15	Review of Day 4	
8:15 – 10:15	Evaluation Jump 6	Formal evaluation grid
10:15 – 1:00pm	Review for consideration and lunch break	
1:00pm – 2:30pm	Final Exam	Technical Knowledge
2:30pm – 4:00pm	Post-course review and debriefing	

PFF Training Program: An Overview

Training Jumps In-Air: Traditional

Several practice jumps are an integral part of the PFFI training. These jumps permit the Course Facilitator to train candidates in different techniques necessary to control the harness, exit, proximity flying, quadrant flying, student control (spin and inverted recovery), parachute deployment for the student, etc. In order to prepare the student/candidate for subsequent evaluations, these jumps permit the Facilitator the chance to determine the potential chance of success for a candidate.

If it is deemed necessary, the Facilitator may conclude the training for a candidate before the commencement of the evaluation stage (following practice Jump #10). In this case, the candidate will receive particular exercises that he should perform before registering for a subsequent PFFI Course.

Jump 1: Group FS jump
Jump 2: FS 4-way jump, relative proximity, signals
Jump 3: Level 2 jump, 2:1 MSI (Main-Side Instructor)
Jump 4: Level 2 jump, 2:1 RSI (Reserve-Side Instructor)
Jump 5: Level 3 jump, 2:1 MSI
Jump 6: Level 3 jump, 2:1 RSI
Jump 7: Level 4 jump, 1:1
Jump 8: Spin recovery practice
Jump 9: Inverted recovery practice
Jump 10: Inverted spin recovery practice

Note: the Level corresponds to the standard CSPA PFF Progression levels.

Commencement of the Evaluation Jump phase (see below). You may be asked to leave the program prior to this phase for any unsatisfactory performance.

PFF Training Program: An Overview (...)

Training Jumps using the Wind Tunnel

The Facilitator can decide to substitute some of the practice jumps with 30 minutes of wind tunnel exercises. In this case, the tunnel exercises and the subsequent training jumps for the practice might consist of:

Wind Tunnel PFF Exercises (30 minutes)

1. Familiarization with the tunnel and/or 2-way FS with the Facilitator
    a. (optional depending on previous wind tunnel experience)
2. Evaluation of the candidate's flying ability
    a. (level control up/down, 360 turns, sliding, forward/backward movement, "drift")
3. Simon-says with the Facilitator (evaluation how steadily one can fly)
4. Solid in-flight control: push / pull test by Facilitator on candidate to knock off balance
5. Orbiting around the Facilitator (supertransitional rotation)
6. Turning around the Facilitator (slide and turn)
7. 3D flying: over/under control
8. Proximity and signal use
9. Control of an unstable student
10. Stopping a flat spin
11. Practice returning student from back (inverted) to belly
12. Practice on how to open a student pilot chute from each side
13. Typical Level 1: MSI and RSI
14. Typical Level 3: MSI and RSI
15. Typical Level 4: 1:1

Note: The Facilitator will create a training program adapted to each candidate with the aid of the exercises above. The exercises in the tunnel will be composed of 3 sessions of 10 minutes with a break between each session. Each session will comprise of five flights of 2 minutes each.

In-air Training Jumps after Wind Tunnel Training Exercises

Jump 1: Level 3 jump, 2:1 MSI
Jump 2: Level 3 jump, 2:1 RSI
Jump 3: Level 4 jump, 1:1
Jump 4: Spin recovery practice
Jump 5: Inverted recovery practice

Evaluation Jumps

Following the practice training exercises, the Facilitator will begin the formal evaluation jumps. Each jump has certain criteria/objectives that will aid the Facilitator in determining the pass or fail of the candidate for that jump. The candidate will be able to repeat a maximum of two (2) different evaluation jumps (make-ups) over the six evaluation jumps. However, the candidate will not be allowed to repeat the same evaluation jump more than one (1) time during the course. More than two make-ups or a repeated make-up of the same task will result in automatic disqualification and removal from the course

Jump 1: normal/routine jump (2:1) as MSI
Jump 2: normal/routine jump (2:1) as RSI
Jump 3: unusual jump (2:1) as MSI
Jump 4: unusual jump (2:1) as RSI
Jump 5: normal/routine jump (1:1)
Jump 6: unusual jump (1:1)

Rules for Evaluation Jumps

- No contact with the Evaluator after 3500 feet. At this altitude, if you are not in contact with the Evaluator, stay away, track and deploy!
- Move away immediately when the Evaluator signals (wave off) as an indication of the immediate end of the jump, regardless of the altitude.
- Never pull the pilot chute of the Evaluator unless you have been advised that you may do so before the jump. 3 spanks on the buttocks indicates that the PFF instructor (candidate) has pulled the Evaluator's pilot chute
- Never fly over top of the Evaluator.

Criteria for Not Passing the Evaluation Jumps

- No equipment check or incomplete equipment check by the Candidate of the Evaluator's gear (1. gear-up; 2. pre-boarding; 3. pre-exit)
- The parachute of the Evaluator is not "opened" by 3500 feet
- The candidate follows/chases the Evaluator lower than 3500 feet
- The candidate accidently pulls the pilot chute of the Evaluator (unless specifically authorized)
- The candidate deploys own pilot chute below 2500 feet
- Receive a mark of less than 80% on the jump evaluation form
- Candidate pulls the Reserve Handle or Cutaway handle out of the pouch
- Candidate deploys the "student" on his back (inverted)
- Candidate does not maintain close proximity and/or level with "student", or is greater than an "arms-length" away throughout most of the dive, especially at deployment
- Candidate flies OVER the "student" at any time
- Any other performance which is deemed unsafe or unsatisfactory by the Course Facilitator

Criteria to succeed in the PFFI Course

- Must complete the training program under the supervision of a certified PFFI Course Facilitator.
- Must demonstrate satisfactory performance for each jump as MSI, RSI and 1:1.
- Must brief and debrief the 5 phases of a student jump using the standard coaching format from the Skills Grid and demonstrating professionalism throughout.
- Must obtain a passing mark of at least 80% on the final written exam.

Module 2 The PFF Program

Description of the student PFF Program

The main objective of the Progressive Freefall (PFF) program is to offer a program structured to direct student parachutists towards obtaining a Solo Certificate with the CSPA. The training of parachuting skills is done in close cooperation with instructors at each stage of the 10 jumps necessary to obtain the Solo Certificate. The PFF Instructor will transfer the technical and practical training during the Preparation, checking the Equipment, the In-Flight procedures during the aircraft ride, the Freefall skills, the Canopy Control skills and the Landing to prepare students for completion of the Solo stage of the Skills Grid. The important aspects of the PFF program consist of the proximity of the instructors with the student from aircraft exit through to parachute deployment in order to maximize the student's learning and provide immediate corrections to the body position during the freefall portion. Moreover, the closeness of the instructors enormously contributes to increasing the degree of confidence for the student as well as their safety.

The PFFI must have a very high level of freefall skill. The success of the student depends on the PFFI's adequate preparation, excellent skill analysis and especially a sufficient comfort in freefall to allow the student maximum freedom to practice the new skills. The instructor will have to be sufficiently qualified to let the student practice a new skill while being able to recognize a critical situation and to react with speed and precision to assist the student.

Advantages of the Program

- Offers a defined progression toward achieving the Solo Certificate
- Defines clear objectives for each stage of the jump
- Ratio of two instructors for one student during the initial jump(s)
- Offer more stability for the student
- Offers better supervision of the deployment handles
- Close flying allows for immediate feedback during the freefall
- The amount of freefall time is sufficiently long to make the necessary corrections, when compared to gradual or traditional progression methods.

Minimum Acceptable Norms for the PFFI Program

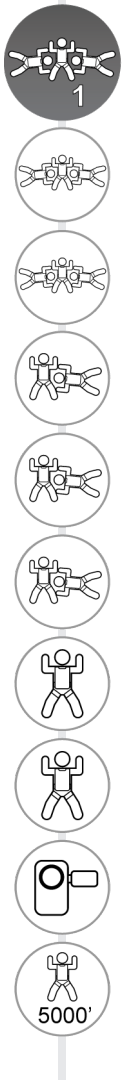
- Minimum exit altitude of 8500 feet AGL
- Student has made 1 jump (IAD, SL or TDM) or 20 minutes of wind tunnel under the supervision of a trained PFFI before undertaking the PFF jump program
- The program must include a minimum of 5 Levels
- The equipment must use the BOC deployment system
- Minimum opening altitude of 4000 feet AGL.

Suggested Programs of Progression

You will find in the following pages the Traditional PFF Program, and the Wind Tunnel PFF Program. These programs are a result of several years of experience across the country and will ensure an optimal progression of the student while respecting the high standards of safety. Certain alternatives to these programs are still used in Canada; in such a case the instructor(s) must ensure that the program meets the acceptable minimal standards detailed within this chapter to ensure the validity of the program.

The PFF Program – Traditional Method

LEVEL 1 : Introduction to Freefall (2 instructors)



1. Preparation and Equipment

- Physical rehearsal of the freefall manoeuvres
- Check the equipment under the supervision of the instructor
- Set the altimeter to 0 feet AGL and the audible altimeter to 5000'
- Observe the direction and speed of the ground winds; brief the landing circuit and designated points (or alternative ground control means, in addition to Radio Control, as per the CSPA PIM 1).

2. In-Flight

- Practice relaxation techniques
- Perform a mental rehearsal of all the phases of the jump around 4000'
- Make a verbal review of the jump and hand signals with the instructor around 8000'
- Confirm the activation altitude of the audible altimeter during ascent
- Check the equipment (including 3-handles check, 3 straps check, and request a Pin check) under the supervision of the instructor
- Check the altimeter with the instructor.

3. Freefall

- Leave stable by facing into the relative wind
- Maintain a stable freefall box position
- Perform the circle of awareness (HARM - Heading, Altimeter, RSI, MSI)
- Perform 3 good practice pulls
- Check the altitude
- Start to open the parachute by 5000'

4. Canopy Control

- Perform the visual flight check
- Perform the flight control check
- Locate the landing zone
- Perform a wind penetration check (facing into the wind)
- Perform practice landings (flares) above 2000'
- Carry out radio instructions

a. Radio Assistance

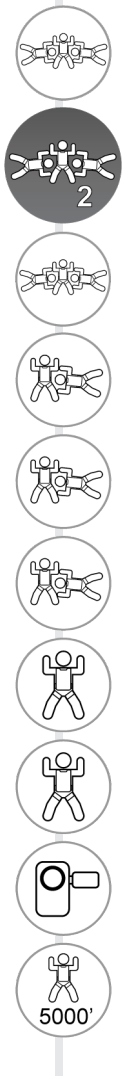
- Radio Assistance supplements the explanations of the various stages of canopy descent
- Help with recognizing landmarks on the ground
- Help with the landing circuit and landing flare

5. Technical Knowledge

- Unusual situations in freefall
- Unusual situations under canopy
- Checking equipment

The PFF Program – Tradition Method (...)

LEVEL 2 : START and STOP Turns (2 instructors)



1. Preparation and Equipment

- Physically practice the freefall manoeuvres
- Check the equipment under the supervision of the instructor
- Set the altimeter to 0 feet AGL and the audible altimeter to 5000'
- Observe the direction and speed of the ground winds, brief the landing circuit and designated points
- Determine the exit point on the aerial photograph (spotting observation).

2. In-Flight

- Practice relaxation techniques
- Perform a mental rehearsal of all the stages of the jump around 4000'
- Perform a verbal review of the jump and hand signals with the instructor around 8000'
- Confirm the activation altitude of the audible altimeter during ascent
- Check the equipment (including 3-handles check, 3 straps check, and request a Pin check) under the supervision of the instructor
- Check the altimeter with the instructor
- Locate the landing area (dropzone) from the door before exiting.

3. Freefall

- Leave stable by facing into the relative wind
- Maintain a stable, relaxed freefall box position
- Establish a visual contact with the instructor located in front
- Maintain heading facing the instructor
- Start and stop turns, left and right
- Check altitude
- Start to open the parachute by 5000'.

4. Canopy Control

- Perform the visual flight check
- Perform the flight control check
- Locate the landing zone
- Perform a penetration check (facing into the wind)
- Perform practice landings (flares) above 2000'
- Become familiarized with the landing pattern

a. Radio Assistance

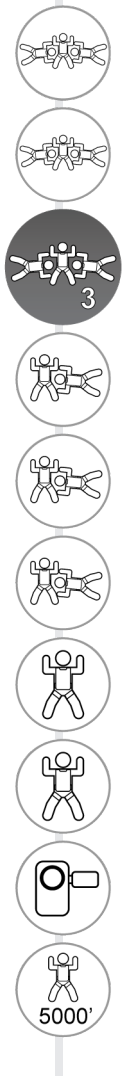
- Reduced radio assistance, only to direct back on course
- Help with recognizing landmarks on the ground
- Help with the landing

5. Technical Knowledge

- Freefall Control
- How to start/stop a turn

The PFF Program – Tradition Method (...)

LEVEL 3 : Introduction to Solo Flight (2 instructors)



1. Preparation and Equipment

- Physically practice the freefall manoeuvres
- Check the equipment under the supervision of the instructor
- Set the altimeter to 0 feet AGL and the audible altimeter to 5000'
- Observe the direction and speed of the ground winds, brief the landing circuit and designated points
- Determine the exit point on the aerial photograph (spotting observation)

2. In-Flight

- Practice relaxation techniques
- Perform a mental rehearsal of all the stages of the jump around 4000'
- Perform a verbal review of the jump and hand signals with the instructor around 8000'
- Confirm the activation altitude of the audible altimeter during ascent
- Check the equipment (including 3-handles check) under the supervision of the instructor
- Request a pin check by the instructor
- Locate the landing area (dropzone) before leaving (initiate the exit at the determined exit point).

3. Freefall

- Leave stable by facing into the relative wind
- Follow the movement of the instructor (introduction to the solo freefall)
- Establish a visual contact and maintain heading facing the instructor
- Perform a practice pull for opening
- Check altitude
- Open the parachute by 5000'.

4. Canopy Control

- Perform the visual flight check
- Perform the flight control check
- Locate the landing zone
- Make penetration check
- Fly the pattern to the designated points
- Follow the landing circuit

a. Radio Assistance

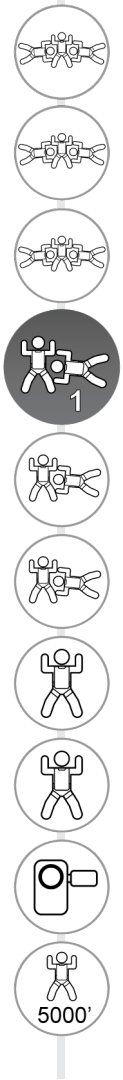
- Minimal radio assistance, except when needed by the student
- Student lands by themself

5. Technical Knowledge

- Canopy control
- Landing pattern

The PFF Program – Tradition Method (...)

LEVEL 4 : FIRST ONE ON ONE (1 instructor)



1. Preparation and Equipment

- Physically practice the freefall manoeuvres
- Perform an equipment check
- Set the altimeter to 0 feet AGL and the audible altimeter to 5000'
- Determine the exit point on the aerial photograph
- Observe the wind direction and speed, the landing circuit and understand designated points.

2. In-Flight

- Practice relaxation techniques
- Perform a mental rehearsal of all the stages of the jump around 4000'
- Perform a verbal review of the jump and signals with the instructor around 8000'
- Confirm the activation altitude of the audible altimeter during ascent
- Check the equipment under the supervision of the instructor
- Request a pin check by the instructor
- Determine the exit point (good, too short, too long?).

3. Freefall

- Stable exit into the relative wind with one instructor
- Fly solo for most of the freefall
- Get back onto heading after practice pulls
- Carry out 1 controlled 360º turn
- Check altitude
- Open the parachute by 5000'

4. Canopy Control

- Perform the visual flight check
- Perform the flight control check
- Locate the landing zone
- Perform penetration check
- Perform right / left turn with the rear risers (above 2000')
- Fly the pattern using the designated points

a. Radio Assistance

- Minimal radio assistance, except when needed by the student
- Student lands by them self
- Record accuracy if no radio required

5. Technical Knowledge

- Spot
- Canopy control and rear risers usage

The PFF Program – Tradition Method (...)

LEVEL 5 : SOLO EXIT, CONFIRMATION of DEPLOYMENT AND TURNS (1 instructor)

1. Preparation and Equipment

- Physically practice the freefall manoeuvres
- Perform an equipment check
- Set the altimeter to 0 feet AGL and the audible altimeter to 5000'
- Determine the exit point on the aerial photograph
- Observe the wind direction and speed, the landing circuit and understand designated points.

2. In-Flight

- Practice relaxation techniques
- Perform a mental rehearsal of all the stages of the jump around 4000'
- Perform a verbal review of the jump and signals with the instructor around 8000'
- Confirm the activation altitude of the audible altimeter during ascent
- Check the equipment under the supervision of the instructor
- Request a pin check by the instructor
- Determine the exit point (good, too short, too long?).

3. Freefall

- Dive exit solo (or an unstable exit, such as ride-the-slide)
- Become stable within 5 seconds from exit
- Have a stable and relaxed box position, maintaining heading with the instructor
- Maintain heading during 2 practice pulls
- Carry out 2 controlled 360º turns
- Check altitude
- Open the parachute by 5000' without the need for instructor contact

4. Canopy Control

- Perform the visual flight check
- Perform the flight control check
- Locate the landing zone
- Perform penetration check
- Perform right / left turn with the front risers (above 2000')
- Fly the pattern using the designated points

a. Radio Assistance

- Minimal radio assistance, except when needed by the student
- Student lands by himself
- Record accuracy if no radio required

5. Technical Knowledge

- Control in freefall
- Exit solo and re-stabilize

The PFF Program – Tradition Method (...)

LEVEL 6 : PRE-SOLO (1 instructor)

1. Preparation and Equipment

- Physically practice the freefall manoeuvres
- Perform an equipment check
- Set the altimeter to 0 feet AGL and the audible altimeter to 5000'
- Determine the exit point on the aerial photograph
- Observe the wind direction and speed, the landing circuit and understand designated points.

2. In-Flight

- Practice relaxation techniques
- Perform a mental rehearsal of all the stages of the jump around 4000'
- Perform a verbal review of the jump and signals with the instructor around 8000'
- Confirm the activation altitude of the audible altimeter during ascent
- Check the equipment under the supervision of the instructor
- Request a pin check by the instructor
- Determine the exit point (good, too short, too long?).

3. Freefall

- Leave solo, exiting into a front loop/somersault
- Regain the stable box position, without assistance from the instructor, within 5 seconds
- Make 3 practice openings while maintaining heading, without assistance of the instructor
- Make a controlled Figure 8 (one turn 360º right and one turn 360º left) without assistance of the instructor
- Check altitude
- Open the parachute by 4000' without instructor contact

4. Canopy Control

- Perform the visual flight check
- Perform the flight control check
- Locate the landing zone
- Perform penetration check
- Perform a canopy Stall Point Test and Recovery at a high altitude (above 2000')
  Note: find the Stall Point, but stop before the actual stall. Focus is on a smooth recovery.
- Fly the pattern using the designated points

a. Radio Assistance

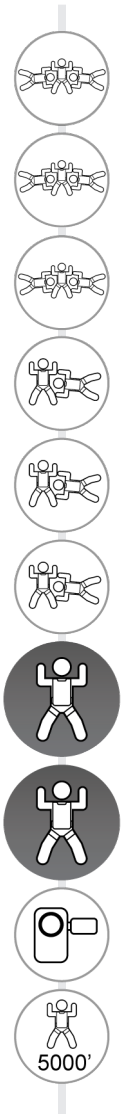
- Supervision only, no radio contact unless required
- Record accuracy if no radio required

5. Technical Knowledge

- Canopy control
- Stall and Recovery theory

The PFF Program – Tradition Method (...)

LEVEL 7 and 8 : SOLO



1. Preparation and Equipment

- Physically practice the freefall manoeuvres
- Perform an equipment check
- Set the altimeter to 0 feet AGL and the audible altimeter to 5000'
- Determine the exit point on the aerial photograph
- Observe the wind direction and speed, the landing circuit and understand designated points
- Plan for all aspects/phases of the jump (see Solo Checklist, Skills grid)

2. In-Flight

- Practice relaxation techniques
- Perform a mental rehearsal of all the stages of the jump around 4000'
- Perform a second mental rehearsal of the jump around 8000'
- Confirm the activation altitude of the audible altimeter during ascent
- Check the equipment (including 3-handles check)
- Request a pin check by the instructor
- Determine the exit point (good, too short, too long?).

3. Freefall

- Leave solo facing the relative wind in preparation to jump out at 5000' (for Level 10)
- Regain the stable box position and maintain heading
- Refine turns and opening technique
- Try a back loop (and front loop, time permitting)
- Check the altimeter
- Stop all movements and regain stability by 5000'
- Open the parachute by 4000'

4. Canopy Control

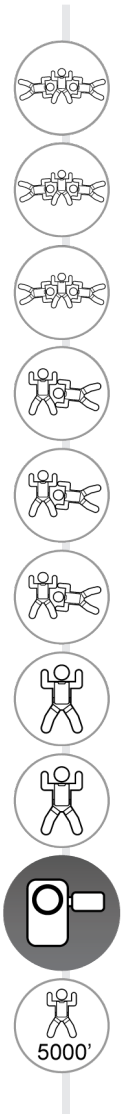
- Perform the visual flight check
- Perform the flight control check
- Locate the landing zone
- Perform a penetration check
- Perform 2 turns with the rear risers
- Control final approach and follow the landing circuit
- Land within 50 meters of the target
  - **a. Radio Assistance**
- Supervision only
- Record accuracy if no radio required

5. Technical Knowledge

- Control freefall
- Front loop and back loop

The PFF Program – Tradition Method (...)

LEVEL 9 :
SOLO (VIDEO) JUMP
(Video optional for Practical Exam, but recommended)



1. Preparation and Equipment

- Physically practice the freefall manoeuvres
- Perform an equipment check
- Set the altimeter to 0 feet AGL and the audible altimeter (5000' / 3500' / 1500')
- Read and memorize the jump plan (see below)
- Determine the exit point on the air photograph
- Observe the wind direction and speed, the landing circuit and understand designated points.

2. In-Flight

- Practice relaxation techniques
- Perform a mental rehearsal of all the stages of the jump around 4000'
- Perform a verbal review of the jump with the videographer
- Confirm the activation altitude of the audible altimeter during ascent
- Check the equipment
- Request a pin check by the instructor
- Determine the exit point.

3. Freefall

- Leave in a front loop
- Perform a Figure 8 (CSPA practical requirement)
- Execute the manoeuvres described in the scenario on following page
- Check the altimeter
- Regain stability by 5000' and open the parachute by 4000'.

4. Canopy Control

- Perform the visual flight check
- Perform the flight control check
- Locate the landing zone
- Perform a penetration check
- Control final approach and follow the landing circuit
- Land within less than 50 meters of the target

a. Radio Assistance

- None
- Record accuracy

5. Technical Knowledge

- Write the SOLO quiz
- Solo Emergency Procedures Review
- Solo Emergency Procedures endorsement

The PFF Program – Tradition Method (...)

LEVEL 9 :
Scenario for the SOLO (video) jump

The following recommendations are for the student to perform a successful practical examination:

1. In-Flight

- The mental rehearsal and the visualization of your jump will contribute to its success.

2. The Exit

- The videographer will climb out first and take the rear float position.
- You take position in the door like a dive exit in order to carry out the front loop exit.
- Signal (nod) to the videographer, and Go!

3. Freefall

- After your departure, re-stabilize and take a heading facing the sun.
- Relax and maintain that heading (do not search for the videographer).
- Disregard the videographer, and carry out a complete Figure 8 turn (360° on the right then on left).
  Once you have finished each turn, you should again face the sun. Check altimeter.
- At this time, the videographer will be in front of you and will take photographs.
  Wait for several seconds….and Smile! (Thumbs up!)

The rest…

- When the videographer signals, carry out a back loop.
  The success of your video does not required you to make a perfect loop.
  The CSPA Solo Certificate requires only the two 360º turns.
  Carrying out a loop just adds to your video.
  The least stable loops often make best video.
- After your back loop, return to face the sun and the videographer for some photographs. Keep the legs pushed out to prevent backsliding.
- If altitude allows, you will be able to carry out more turns, always with a smile, of course!

4. Opening

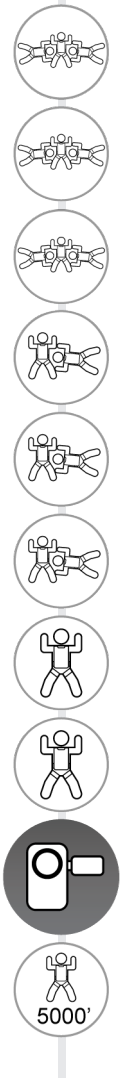
- Stop all activity at 5000'.
- At 4000', wave at the videographer and open your parachute.
- It is your responsibility to keep aware of altitude at all times (after each maneuver).

5. Canopy Control

- No video will be taken of your Canopy Control in the air.

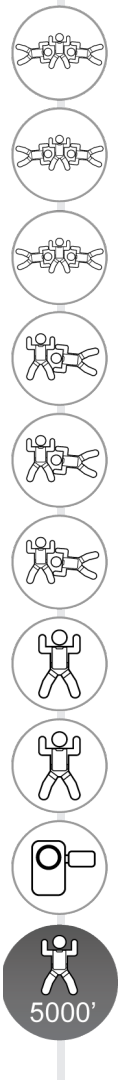
6. The Video

- Your video will be ready within the hour following your jump.
  We will also give you a DVD of your in-air photos.
- It is possible to put music of your choice on your video for the freefall part.
  You must bring your own DVD.



The PFF Program – Tradition Method (...)

LEVEL 10 :
JUMP from 5000 FEET
(To practice a low-level jump, or simulated emergency aircraft exit)



1. Preparation and Equipment

- Physically practice the freefall manoeuvres
- Perform an equipment check
- Set the altimeter to 0 feet AGL and the audible altimeter (5000’ / 3500’ / 1500’)
- Determine the exit point on the aerial photograph
- Observe the wind direction, the landing circuit and understand designated points
- Receive briefing of exiting at low altitude (5000’).

2. In-Flight

- Practice relaxation techniques
- Confirm the activation altitude of the audible altimeter during ascent
- Check the equipment
- Request a pin check by the instructor
- Determine the exit point.

3. Freefall

- Leave stable by facing into the relative wind
- Become stable within 12 seconds after exit
- Maintain heading
- Open the parachute by 3500’.

4. Canopy Control

- Perform the visual flight check
- Perform the flight control check
- Locate the landing zone
- Perform a penetration check
- Control of final approach and follow the landing circuit
- Land within 50 meters of the target

a. Radio Assistance

- None
- Record accuracy

5. Technical Knowledge

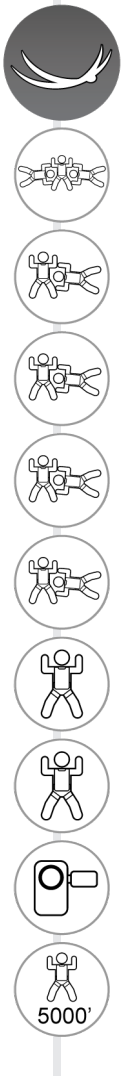
- Review emergency procedures

REMEMBER

Never sacrifice altitude for stability. In the unlikely situation where you are still unstable at 3000 feet (minimal altitude of opening as per the BSR’s), **PULL!**

The Tunnel PFF Program

PRE-LEVEL *: Introduction to Freefall using the Wind Tunnel (1 instructor)*



General Objectives of the Program

- To minimize the stress and the sensory overload at the time of the first jump
- To maximize the freefall skills before the first jump
- To maximize competencies in the 6 stages for the same number of jumps

1. Preparation and Equipment

- Explain safety factors of the tunnel
- Show how to enter and exit the tunnel
- Show the stable, relaxed freefall position
- Show how to start and stop a turn
- Show how to go up and go down
- Demonstrate the a stable body position for deployment (practice pull) for the PFF jump
- Explain communication signals used in the tunnel and for freefall
- Do a physical warm-up
- Explain importance of removing watch, jewelry and other objects from pockets
- Select an appropriate jump suit and helmet
- Use elbow and knee pads, goggles and ear plugs

2. In the Ante-Chamber

- Explain the importance of keeping in position on the bench
- Explain the importance of being attentive with what occurs inside the chamber
- Explain how to prepare to enter at the signal of the instructor

3. Inside the Tunnel Chamber (5 rotations of 2 minutes X 2), Demonstrate:

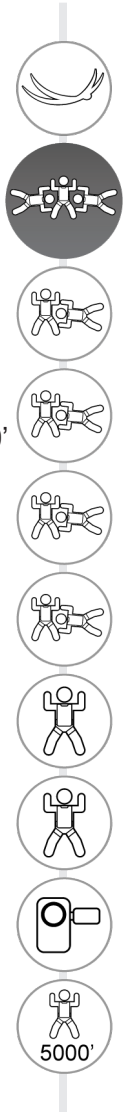
- Ease in the environment during initiation
- Stability
- Good basic position
- Heading control
- Control turns
- Movement forward and backward (proximity)
- Technique of performing altitude checks
- Movement up and down (levels)
- Practice deployment of the Pilot chute
- Routine of Level 1 freefall (sequence of events)

4. Technical Knowledge

- Neutral freefall position: the relaxed box position
- Variations to body position and the results
- Turn technique
- Various techniques of throwing the pilot chute

The Tunnel PFF Program (...)

LEVEL 1 : Introduction to Freefall – Start and Stop Turns (2 instructors)



1. Preparation and Equipment

- Physically practice the freefall manoeuvres
- Check the equipment under the supervision of the instructor
- Set the altimeter to 0 feet AGL and the audible altimeter to 5000'
- Observe the direction and speed of the ground winds, brief the landing circuit and designated points.

2. In-Flight

- Practice relaxation techniques
- Perform a mental rehearsal of all the stages of the jump around 4000'
- Make a verbal review of the jump and hand signal review with the instructor around 8000'
- Confirm the activation altitude of the audible altimeter during ascent
- Check the equipment (including 3-handles check, 3 straps check, 2 pin check) under the supervision of the instructor
- Check the altimeter with the instructor.

3. Freefall

- Leave stable by facing into the relative wind
- Maintain a stable freefall box position
- Perform the circle of awareness (HARM - Heading, Altimeter, RSI, MSI)
- Make 3 good practice pulls
- Establish visual contact with the instructor, located in front
- Maintain heading facing the instructor
- Start and stop turns, left and right
- Check altitude
- Open the parachute by 5000'.

4. Canopy Control

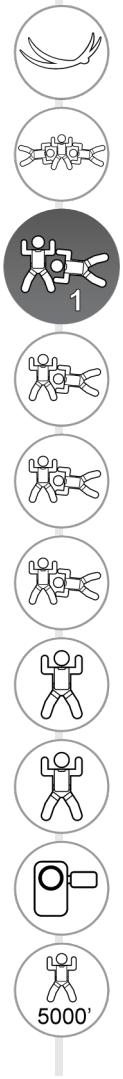
- Perform the visual flight check
- Perform the flight control check
- Locate the landing zone
- Make penetration check (facing into the wind)
- Carry out radio commands
  - **a. Radio Assistance**
- Radio Assistance supplements the explanations of the various stages of canopy descent
- Help with recognizing landmarks on the ground
- Help with the landing flare

5. Technical Knowledge

- Canopy Control
- Unusual situations under canopy
- Unusual situations in freefall
- Checking equipment
- Turns in freefall

The Tunnel PFF Program (...)

LEVEL 2 : Introduction to Solo Flight (1 instructor)



1. Preparation and Equipment

- Physically practice the freefall manoeuvres
- Check the equipment under the supervision of the instructor
- Set the altimeter to 0 feet AGL and the audible altimeter to 5000'
- Observe the direction and speed of the ground winds, brief the landing circuit and designated points
- Determine the exit point on the aerial photograph (spotting observation)

2. In-Flight

- Practice relaxation techniques
- Make a mental rehearsal of all the stages of the jump around 4000'
- Make a verbal review of the jump and hand signals with the instructor around 8000'
- Confirm the activation altitude of the audible altimeter during ascent
- Check the equipment (including 3-handles check, 3 straps check) under the supervision of the instructor
- Request a pin check by the instructor
- Locate the landing area (dropzone) before leaving, and initiate exit at the determined exit point

3. Freefall

- Leave stable by facing into the relative wind, with only one instructor
- Have a stable and relaxed boxman position
- Establish a visual contact and maintain heading facing the instructor
- Follow the instructor's movement (introduction to flight solo)
- Check altitude between each movement
- Open the parachute with 5000'

4. Canopy Control

- Perform the visual flight check
- Perform the flight control check
- Locate the landing zone
- Make penetration check (facing into the wind)
- Become familiarized with the landing circuit, including designated points

a. Radio Assistance

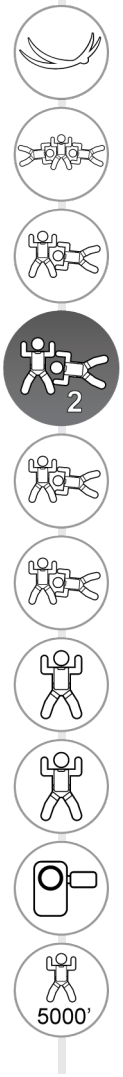
- Reduced radio assistance
- Help with finding the designated points
- Help with the landing

5. Technical Knowledge

- Canopy Control
- Landing Circuit

The Tunnel PFF Program (...)

LEVEL 3 : Solo Flight (1 instructor)



1. Preparation and Equipment

- Physically practice the freefall manoeuvres
- Perform an equipment check
- Set the altimeter to 0 feet AGL and the audible altimeter to 5000'
- Determine the exit point on the air photograph
- Observe the wind direction and speed, the landing circuit and understand designated points.

2. In-Flight

- Practice relaxation techniques
- Make a mental rehearsal of all the stages of the jump around 4000'
- Make a verbal review of the jump and signals with the instructor around 8000'
- Confirm the activation altitude of the audible altimeter during ascent
- Check the equipment (including 3-handles check) under the supervision of the instructor
- Request a pin check by the instructor
- Locate the dropzone, determine the exit point used by the instructor (initiate climb-out at the exit point)

3. Freefall

- Leave stable by facing into the relative wind
- Follow the instructor who moves (introduction to the flight solo)
- Establish a visual contact and maintain heading facing the instructor
- Carry out a controlled turn of 360º
- Make practice pulls for opening
- Check altitude
- Open the parachute by 5000'

4. Canopy Control

- Perform the visual flight check
- Perform the flight control check
- Locate the landing zone
- Make penetration check (facing into the wind)
- Make right / left turn with the rear risers (above 2000')
- Fly the pattern using the designated points
- Follow the landing circuit

a. Radio Assistance

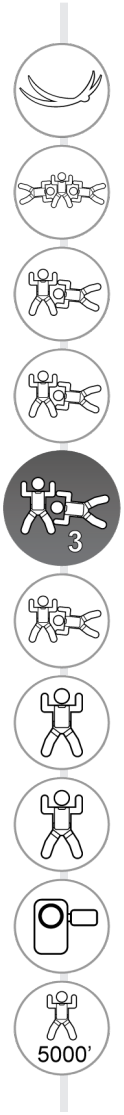
- Minimal radio assistance, except when needed by the student
- Landing by self; record accuracy if landing without radio assistance

5. Technical Knowledge

- Determining exit spot, forward throw and freefall drift, wind direction
- Canopy control, using the rear risers

The Tunnel PFF Program (...)

LEVEL 4 : Solo Exit, Confirmation of Deployment, and Turns (1 instructor)



1. Preparation and Equipment

- Physically practice the freefall manoeuvres
- Perform an equipment check
- Set the altimeter to 0 feet AGL and the audible altimeter to 5000'
- Determine the exit point on the aerial photograph
- Observe the wind direction and speed, the landing circuit and understand designated points

2. In-Flight

- Practice relaxation techniques
- Make a mental rehearsal of all the stages of the jump around 4000'
- Make a verbal review of the jump and signals with the instructor around 8000'
- Confirm the activation altitude of the audible altimeter during ascent
- Check the equipment (including 3-handles check) under the supervision of the instructor
- Request a pin check by the instructor
- Determine the exit point (good, too short, too long?)

3. Freefall

- Exit solo in a dive
- Become stable within 5 seconds from exit
- Perform at least 3 controlled practice pulls while holding heading
- Make a controlled figure 8 (turn right 360º and turn left 360º) without assistance of the instructor
- Check altitude
- Open the parachute by 5000' without instructor contact.

4. Canopy Control

- Perform the visual flight check
- Perform the flight control check
- Locate the landing zone
- Make penetration check (facing into the wind)
- Make right / left turn with the rear risers (above 2000')
- Fly the pattern using the designated points

a. Radio Assistance

- Minimal radio assistance, except when needed by the student
- Landing by self; record accuracy if landing without radio assistance

5. Technical Knowledge

- Control in freefall, exit solo and re-stabilize

The Tunnel PFF Program (...)

LEVEL 5 : *Pre-Solo (1 instructor)*

1. Preparation and Equipment

- Physically practice the freefall manoeuvres
- Perform an equipment check
- Set the altimeter to 0 feet AGL and the audible altimeter to 5000'
- Determine the exit point on the aerial photograph
- Observe the wind direction and speed, the landing circuit and understand designated points

2. In-Flight

- Practice relaxation techniques
- Make a mental rehearsal of all the stages of the jump around 4000'
- Make a verbal review of the jump and signals with the instructor around 8000'
- Confirm the activation altitude of the audible altimeter during ascent
- Check the equipment (including 3-handles check) under the supervision of the instructor
- Request a pin check by the instructor
- Determine the exit point (good, too short, too long?)

3. Freefall

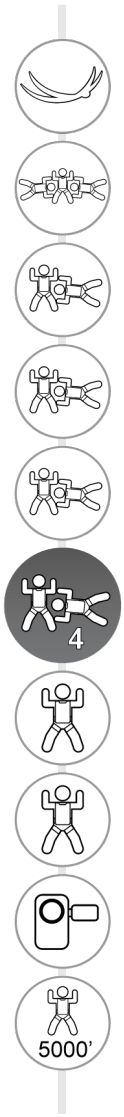
- Leave solo in a front loop
- Regain the stable box position without assistance from the instructor
- Make 3 practice pulls while maintaining heading, without assistance of the instructor
- Move forward toward the instructor when signaled (proximity)
- Check altitude
- Open the parachute by 4000' without instructor contact

4. Canopy Control

- Perform the visual flight check
- Perform the flight control check
- TLocate the landing zone
- Perform penetration check
- Perform a canopy Stall Point Test and Recovery at a high altitude (above 2000')
  Note: find the Stall Point, but stop before the actual stall. Focus is on a smooth recovery.
- Fly the pattern using the designated points
  a. Radio Assistance
- Supervision only
- Record accuracy if landing without radio assistance

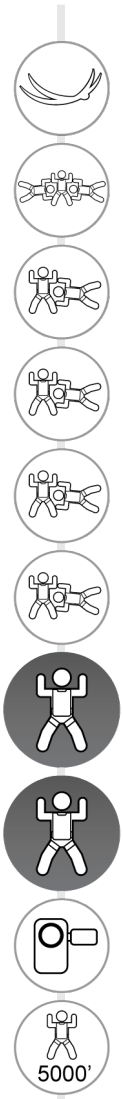
5. Technical Knowledge

- Forward Movements in freefall
- Canopy Control, Stall and Recovery



The Tunnel PFF Program (...)

LEVEL 6 and 7 : Solo



1. Preparation and Equipment

- Physically practice the freefall manoeuvres
- Perform an equipment check
- Set the altimeter to 0 feet AGL and the audible altimeter to 5000'
- Determine the exit point on the aerial photograph
- Observe the wind direction and speed, the landing circuit and understand designated points
- Plan for all aspects/phases of the jump (see Solo Checklist, Skills grid)

2. In-Flight

- Practice relaxation techniques
- Make a mental rehearsal of all the stages of the jump around 4000'
- Make a second mental rehearsal of the jump around 8000'
- Confirm the activation altitude of the audible altimeter during ascent
- Check the equipment (including 3-handles check)
- Request a pin check by the instructor
- Determine the exit point (good, too short, too long?)

3. Freefall

- Leave solo facing the relative wind in preparation to jump out at 5000' (Practice for level 9)
- Regain the stable box position and maintain heading
- Refine turns and opening practice
- Try a back loop or front loop (only one type per jump)
- Check the altimeter
- Regain stability at 5000'
- Open the parachute by 4000'

4. Canopy Control

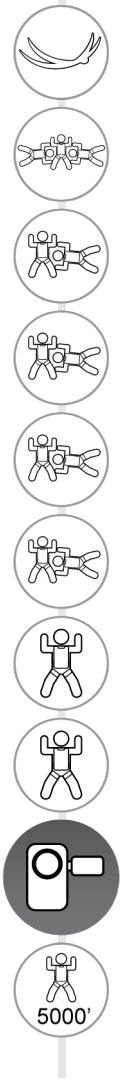
- Perform the visual flight check
- Perform the flight control check
- Locate the landing zone
- Make a penetration check (facing into the wind)
- Make 2 turns with the rear risers (above 2000')
- Control final approach and follow the landing circuit
- Land within 50 meters of the target
  - **a. Radio Assistance**
- Supervision only
- Record accuracy

5. Technical Knowledge

- Control freefall, front loop and back loop

The Tunnel PFF Program (...)

LEVEL 8 : SOLO Video Jump (Practical Exam)



1. Preparation and Equipment

- Physically practice the freefall manoeuvres
- Perform an equipment check
- Set the altimeter to 0 feet AGL and the audible altimeter (5000' / 3500' / 1500')
- Read and memorize the jump plan (see next page for description)
- Determine the exit point on the air photograph
- Observe the wind direction and speed, the landing circuit and understand designated points

2. In-Flight

- Practice relaxation techniques
- Make a mental rehearsal of all the stages of the jump around 4000'
- Make a verbal review of the jump with the videographer
- Confirm the activation altitude of the audible altimeter during ascent
- Check the equipment (including 3-handles check)
- Request a pin check by the instructor
- Determine the exit point (good, too short, too long?)

3. Freefall

- Leave in a front loop
- Perform a figure 8 (CSPA practical requirement)
- Execute the manoeuvres described in the scenario (see description on the following page)
- Check the altimeter
- Regain stability and open the parachute by 4000'

4. Canopy Control

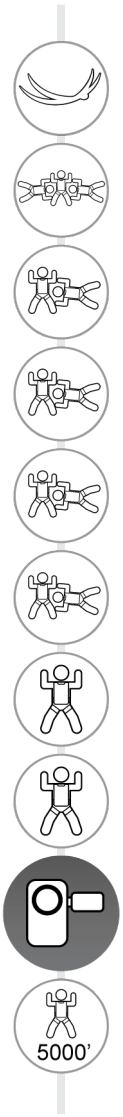
- Perform the visual flight check
- Perform the flight control check
- Locate the landing zone
- Make a penetration check (facing into the wind)
- Make 2 turns with the rear risers (above 2000')
- Control final approach and follow the landing circuit
- Land within 50 meters of the target
  - **a. Radio Assistance**
- None
- Record accuracy

5. Technical Knowledge

- Write the SOLO quiz
- Solo Emergency Procedures Review
- Solo Emergency Procedures endorsement

The Tunnel PFF Program (...)

LEVEL 8 : Scenario for the SOLO (video) jump



The following recommendations are for the student to perform a successful practical examination:

1. In-Flight

- The mental rehearsal and the visualization of your jump will contribute to its success.

2. The Exit

- The videographer will climb out first and take the rear float position.
- You take position in the door like a dive exit in order to carry out the front loop exit.
- Signal (nod) to the videographer, and Go!

3. Freefall

- After your departure, re-stabilize and take a heading facing the sun.
- Relax and maintain that heading (do not search for the videographer).
- Disregard the videographer, and carry out a complete Figure 8 turn (360° on the right then on left).
  Once you have finished each turn, you should again face the sun. Check altimeter.
- At this time, the videographer will be in front of you and will take photographs.
  Wait for several seconds….and Smile! (Thumbs up!)

The rest…

- When the videographer signals, carry out a back loop.
  The success of your video does not required you to make a perfect loop.
  The examination of the CSPA requires only the two 360º turns.
  Carrying out a loop just adds to your video.
  The least stable loops often make best video.
- After your back loop, return to face the sun and the videographer for some photographs. Keep the legs pushed out to prevent backsliding.
- If altitude allows, you will be able to carry out more turns, always with a smile, of course!

4. Opening

- Stop all activity at 5000'.
- At 4000', wave at the videographer and open your parachute.
- It is your responsibility to keep aware of altitude at all times (after each maneuver).

5. Canopy Control

- No video will be taken of your Canopy Control in the air.

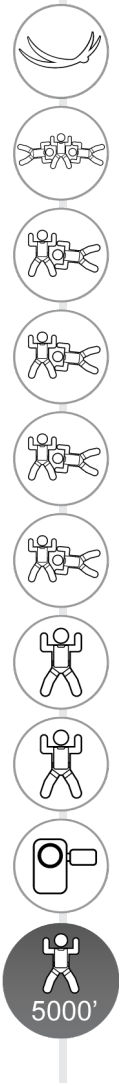
6. The Video

- Your video will be ready within the hour following your jump.
  We will also give you a DVD of your in-air photos.
- It is possible to put music of your choice on your video for the freefall part.
  You must bring your own DVD.

The Tunnel PFF Program (...)

LEVEL 9 : JUMP from 5000 FEET

(To practice a low-level jump, or simulated emergency aircraft exit)



1. Preparation and Equipment

- Physically practice the freefall manoeuvres
- Perform an equipment check
- Set the altimeter to 0 feet AGL and the audible altimeter (5000' / 3500' / 1500')
- Determine the exit point on the air photograph
- Observe the wind direction and speed, the landing circuit and understand designated points
- Receive briefing of exiting at low altitude (5000')

2. In-Flight

- Practice relaxation techniques
- Confirm the activation altitude of the audible altimeter during ascent
- Check the equipment (including 3-handles check)
- Request a pin check by the instructor
- Determine the exit point (good, too short, too long?)

3. Freefall

- Leave stable by facing into the relative wind
- Become stable within 12 seconds after exit
- Maintain heading
- Open the parachute by 3500'

4. Canopy Control

- Perform the visual flight check
- Perform the flight control check
- Locate the landing zone
- Make penetration check (facing into the wind)
- Control final approach and follow the landing circuit
- Land within 50 meters of the target

a. Radio Assistance

- None
- Record Accuracy

5. Technical Knowledge

- Review emergency procedures

REMEMBER

Never sacrifice altitude for stability. In the unlikely situation where you are still unstable at 3000 feet (minimal altitude of opening as per the BSR's), **PULL!**

The 6 Phases of the PFF Program Skills Grid

Here is a brief description of the points that the instructors must cover when teaching skills at each stage of the PFF program. Each stage includes valuable information that will aide you to maximize the performance of your student. The stages will occur in the following order:

Preparation

Equipment

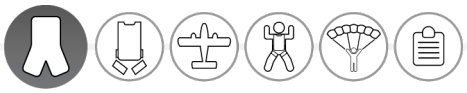
In-Flight

Freefall

Canopy Control

Technical Knowledge

The 6 Phases of the PFF Program Skills Grid (...)



Preparation

Mental rehearsal, physical rehearsal, memorization and relaxation are the basic preparatory activities that you will find on the Skills Grid. By introducing these skills early, they will aid the student to meet the objectives of the program and will encourage them to develop safety skills and routines for the rest of their skydiving career. The PFF Instructor has the responsibility to ensure that the student systematically knows and practices these activities during the day's jumping in order to guarantee that the student is in good physical condition (practice) and mentally (psychologically) prepared to perform their best before each jump.

1. Physical Rehearsal

Physical practice should be performed at each stage of the jump. Make sure the student can repeat each set of physical skills three times minimum without error. Practices are normally made with teaching aids while the final rehearsal should be done with the actual equipment for added realism.

The Exit

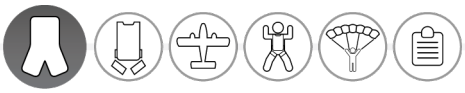
Your student must repeat the steps of the exit, positioning in the door and the launch from the airplane until you are completely satisfied. You should use a mock-up that simulates precisely the aircraft that will be used.

The Freefall

Freefall practices should simulate both the order of events and the speed (timing) at which the movements should be executed. The student should know the sequence by heart and should be able to perform the movements without any difficulties. The student should attain the autonomous stage of motor skills, which will allow for clean execution of motor skills, even in a stressful situation (e.g. Emergency Procedures).

The first practices should allow the student to memorize the routine without physical effort; that is, explain the sequence of events first. Use the creeper, as in stage 2, to introduce the position for the routine and finally add the altimeter-stopwatch to develop the final layer of physical rehearsal. The creeper will get the student accustomed to the freefall position whereas the altimeter-stop watch reproduces the freefall time. Also, introduce at the end of the practice the skills for the next jump, should you find the student has met all the objectives of the present level.

The 6 Phases of the PFF Program Skills Grid (...)



Preparation (...)

1. Physical Rehearsal (...)

The Opening

Physical rehearsal and repetition of the deployment of the pilot chute is of utmost importance. Stress what must be performed and avoid, at all costs, mentioning what should not be done or mentioning the possible errors. The practice should be slow and calm. Ensure that the student keeps their head up and looking forward, and that movement of the right hand is synchronized with the left hand; the left hand slowly extends far ahead in front and in the right hand sweeps down and takes a firm grasp on the pilot chute handle. The student should move the right arm to the pilot chute only when the left arm is in full extension, perpendicular with the body, and the PFFI should keep an eye on the left arm, which should return to the box position simultaneously with the right arm.

The PFF-Tunnel program allows for ideal physical repetitions since the wind tunnel simulates the freefall body position almost perfectly.

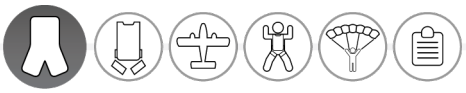
Direction of the Canopy and the Landing Circuit

The physical repetition of the Canopy Control consists of bringing the student back to the landing area and to simulate the time of the descent under canopy. This last repetition will include the opening point, the “play zone”, penetration checks, entry into the landing circuit (downwind), the crosswind leg (beginning of the base) and the final approach. Ideally this repetition will be made right before boarding in order to take account of the speed and the direction of the ground winds at that time. Ensure that your student simulates with his hands the position of the steering toggles for each operation including the final flare of the canopy.

Emergency Procedures

The last physical rehearsal of the emergency procedures must be made once the gear has been checked. Do not introduce any malfunctions at this stage since that could increase the student’s stress. Ask simply for a demonstration of the Emergency Procedures to ensure that the student knows the correct procedure. Congratulate them after a good demonstration to increase their confidence; certainly provide corrections where necessary.

The 6 Phases of the PFF Program Skills Grid (...)



Preparation (...)

2. Relaxation and the Psychological Drive in Parachuting

You will find here a short explanation for the stress control and relaxation. It is strongly recommended to review the Coach 1 Reference Manual (mental preparation in Section 2.5.5) and Coach 2 Reference Manual (Performance Improvement Section 2.54).

Stress

Stress is the result of an individual perception and a reaction to a situation. As the stress is based on the reaction of the individual, two people can have very different levels of stress in the same situation. Certain factors create or increase the level of stress:

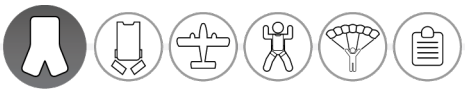
- Learning new activities and unknown experiences, uncertainty in activities
- Feeling threatened for personal safety
- Feeling obligated to perform well or to excel
- Being evaluated
- Feeling self-doubt, lacking self-confidence
- Time pressure

The physical environment can also increase the level of stress of an individual. All these elements meet in parachuting just like in the life of the everyday. For example:

- Noise
- Temperature: too cold, too hot, uncomfortable humidity
- Wind strength
- Attempts to get ready to jump are delayed or cancelled

As an instructor, use this information to minimize the effects of stress for the beginner. You cannot change the physical environment, but you can help to change their perception of the situation.

The 6 Phases of the PFF Program Skills Grid (...)



Preparation (...)

2. Relaxation and the Psychological Drive in Parachuting (...)

Controlling stress

It is recognized that a high level of stress decreases the ability to perform well. The same principle is true for a level of very low stress; a person who is not aroused enough can perform at a level lower than their potential. Therefore, there is a degree or level of optimal stress for a good performance (the Ideal Performance State - IPS).

As a jumper, you have likely already noticed that the majority of the beginners in this sport have a level of stress higher than the desired level for optimal performance. Research confirms this assertion. For this reason, you will have to focus on the importance of the techniques used to decrease the stress. These techniques are often called techniques of relaxation.

Here are some techniques specific to parachuting to control the stress:

- Regard the jumps as controlled situations; stress the importance of safety routines
- Underline the activity of the student to control the situation and his level of autonomy
- Treat each beginner like a single person, being empathetic to each person's needs
- Keep things moving, but avoid them being late and having to run (don't rush)
- Keep it Short and Simple (KISS)
- Keep it Positive at all times ("Do this…")
- Understand the causes of stress and techniques to relax

It is important that your beginner feels supported and that your interaction is positive and is directed towards their success.

3. The Mental Rehearsal, Imagery and Visualization

Visualization is the skill that consists of recreating positive mental images or feelings. The brain cannot make the distinction between the real performance of a skill and a virtual or "invented" mental image of the same skill. In parachuting, one uses the term "mental rehearsal" to describe this activity.

The beginner must learn to develop this important skill from the very beginning. You spend very little time in freefall (60 seconds) and this time is very expensive. It is advantageous to practice these skills whenever possible, such as in the airplane on the ride to altitude. The same thing can be applied to the airplane exits and the final canopy approach. Each one of these activities lasts a few seconds and occurs only one time per jump. Prepare your student to correctly carry out the skill in the proper time. The chance of success will be much greater if one is able to use the technique of visualization.

The key to developing the visualization skill is to be relaxed and practice in a quiet place. We must clear our head and then create an image of the skill to be learned. It is important that the student knows the proper sequence, method, and technique for successful execution of the skill before visualizing.
The final result of the jump depends on the precision and correct execution of the mental image. Note that this skill does not require any physical movement.

The 6 Phases of the PFF Program Skills Grid (...)

Preparation (...)

4. Psychomotor Skills

Psychomotor skills are used to teach a person's brain the body position and the feelings of the body (such as pressure, resistance, flex, stretch) during the execution of a skill. You work to create "muscle memory" for a particular skill while on the ground.

This technique is used in teaching basic to advanced manoeuvres (shaping) and is taught first using the basic position prior to initiation of the desired skill. Let's use the Boxman position as an example: The eyes are open and the coach corrects the position of the body to the desired shape. The position is maintained for 3 to 5 seconds and then relaxed. The coach asks again to take the basic box position, correcting the position of the body as necessary. After 3 to 5 seconds, the beginner starts to relax. On the whole, repeat the process five times. Then the student closes his eyes and carries out the skill. Repeats this skill five times with the eyes closed. Taken mostly from Coach 1, your work consists of making the corrections to have a good body position. After five times, the student should have the good execution of this skill. Take a 10 minute break and perform the exercise again. As the beginner improves, there will be less corrections to make and the movements will be more fluid (toward autonomous).

Ask the beginner to practice the imagery at the same time (imagine the shape of their body, where are the hips, legs, arms, head, what do they imagine they look like if viewing oneself from outside). When the student is able to make the movement without any errors, the beginner is ready for the jump. The student has acquired the muscle memory for this operation and should carry out the skill in the air the same way.

5. Memorization

Memorization is the ability to remember the steps of the jump in order. Memorization is a technique well known to experienced skydivers. Regardless as to whether we prefer belly jumps or free flying; alone or in a group, we all know it is essential to remember the routine of our next jump in order to make the most of the short freefall time.

The typical student has the impression that there is very little time to perform the manoeuvres required to meet the goals you have set them. An instructor should know that the working time available will appear to increase as the stress and sensory overload of the student decreases over subsequent jumps. As an instructor you must combine PFF with this phenomenon. So insist your student memorizes the freefall sequence perfectly, and if possible, perform several jumps per day.

Invite your student to read the sequence of the jump one step at a time. Make sure he takes a few minutes in silence to review each step. Utilize the learning style of your student to facilitate memorization. Before your student has the opportunity to forget any of the details of the jump, make sure you have explained it very well and ensure that sufficient physical practice (dirt diving) is provided.

The 6 Phases of the PFF Program Skills Grid (...)

Equipment

Your student must be autonomous as soon as possible after the PFF Program and should be able to make the first solo jump in the shortest amount of time possible. Supervise the student when they check their equipment and give immediate feedback as often as necessary. Be professional and ensure you to cover all the parts of equipment necessary for the jump.

1. Jumpsuit Selection

As a PFF Instructor, YOU must very have a large range of flying ability, going from “floating” to a very fast fall rate. These flying skills should require the use of “booties” to allow you to react as quickly as possible if you should have to recover at any point. It is your responsibility to remain with your student at all times; you must familiarize yourself with your fall rate and pay detailed attention to determine the fall rate of your student prior to each jump. Since you are 2 instructors at the beginning, the first jump of the program will be an excellent test to check if your selection of jump suit is suitable, both for yourself and your student. Be attentive with your rate of fall and consult your audible altimeter. Pay detailed attention to your body position to see if you are neutral and flying in the middle of your control range (i.e. you are able to slow down or to accelerate your fall rate).

Your neutral body position should allow for a large range of flying. All the students in training must have a jump suit adapted to their size, weight and at the desired fall rate. A well-adapted fall rate will ensure you will have excellent control throughout the freefall.

2. Use of weights

If you do not succeed in adjusting the fall rate with the body position or a jump suit, the use of a weight belt or vest might be necessary. Weights should always be the last resort; wearing weights when jumping with a heavier student is more uncomfortable for you; rather, have the student wear a full cotton baggy jump suit. A light student wearing a slick jump suit might have to wear weight if, even with you wearing a “floaty” jump suit, you have little room to maneuver. Do not hesitate to make a smaller student wear weights if necessary. If the use of a weight belt is necessary during the PFF program, it is probable that it will necessary be for the career of the student. It is important to supervise the use of weights from the very beginning. Preferably, choose an external weight belt/vest that can easily be removed in the event of hazardous landing.

The weight belt should never be used to correct a body position. One should only be used to increase the rate of fall whenever the adjustment of the fall rate (without weights) is not enough. Recall that it is your duty to remain on level with your student, from the exit to the opening.

The 6 Phases of the PFF Program Skills Grid (...)

Equipment (...)

3. The Student Harness

The equipment must use the BoC (Bottom of Container) type of deployment and it is obligatorily to provide students with a functioning and activated AAD and an RSL. The selection of the equipment is of vital importance. Pay detailed attention to the size of the harness. Too small of a harness will make it impossible to reach the pilot chute, whereas with too large of a harness the student can push the container towards their left, thus moving the pilot chute away from their reach at the most crucial time of the opening. To check if the adjustment of the harness is appropriate, practice the opening in freefall position while lying down, with the equipment well adjusted. The pilot chute must be easily accessible, if not the harness is too small. If the harness easily rises off the back or slips to the left of the student then it is too large. Too large of a harness can also be raised easily by the shoulders when the student is upright.

Ensure that your student develops the habit of checking their equipment from the very first jump. Insist on a systematic process, from Front - top to bottom, then Back - top to bottom. And supervise the student as they check their gear 1) on the ground before putting on the equipment, and after donning the equipment, 2) before loading the airplane and of course 3) right before the jump. You must ensure that the student includes/understands the function of each important part of the equipment well. It is this supervision and review which will enable your student to learn how and why to perform a proper gear check. Good understanding of the parts and functions of the equipment is the key of a good gear check.

There are 3 key areas of the gear that are to be checked each time:

3 Straps : The student makes sure that the three (3) straps-chest strap and the two leg straps, are firmly passed between the metal closures, are appropriately tight, are not becoming loose, and ends are secured.

3 Handles : The student makes sure that the 3 handles are in place and secure (in order):

- Pilot chute handle: is well inside the pouch with only the handle outside (no material), and is easily reachable with the right hand. Have the student “mock” a deployment, and check their hand position during the practice pull (hand should end facing backward into the air stream). You should role model this gear check each and every time you gear up or are about to jump.
- Cutaway handle: well seated in the Velcro, easily reachable with the Right hand, and identified with the eyes.
- Reserve handle: well seated in the Velcro and the cable free to move, easily reachable with the Left hand, and identified with the eyes.

2 Pins: The student should be taught to request a Pin Check, as a part of the overall gear check before dressing, after gearing up, before boarding, and especially before exiting the aircraft.

3 Accessories: Helmet, goggles, altimeter.

The 6 Phases of the PFF Program Skills Grid (...)

Equipment (...)

4. Student Main Canopy

The main canopy must be selected with great care. Too small of a canopy will be too fast and dangerous for a beginner to operate whereas a too large of a canopy is more difficult to turn, prone to the drift in higher winds and increases the risks of hazardous or off dropzone landing. It is wrong to believe that a large canopy will be appropriate for all students; your dropzone should have canopies of various sizes to be able to satisfy a range of student sizes. The wing load of a canopy student should range between 0.7 and 0.9.

5. The Instructor's Equipment

In this system of instruction, the PFF Instructor is at a higher risk. The PFFI will face all kinds of situations that will challenge one's competencies and therefore the equipment should be in excellent condition. Use only up-to-date equipment that is very well maintained. The harness must be well-adjusted and without risk of catching the bridle or flaps; for instance, the same type as those used by "freefly" jumpers. It is strongly advised to use an audible altimeter and an AAD, for your safety, even if this equipment is optional at your dropzone.

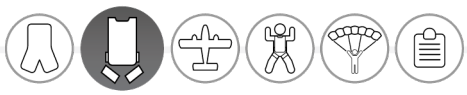
It is highly recommended to wear an open-face helmet and clear goggles that allow the student to see your face since your facial expression can influence much the performance of your student. Tinted or dark goggles should never be worn. Your facial expressions, calm and smiling, have a reassuring and calming effect on the student during freefall. You will be able also to more easily render understandable hand signals if the student can read your lips at the same time; simple words such as: "arch, perfect, relaxed, legs, etc."

6. Radios

A one-way radio system is recommended for the student PFF program: the student must carry a radio receiver, ideally integrated into his helmet for clear reception of the instructions for canopy flight. The PFF Instructors should have a radio transmitter tucked securely into their jump suit to take the charge of the student for the landing or in the event of an off dropzone landing. The Ground Control Instructor must have radio transmitter-receiver to be able to guide the student under canopy after opening. The radio equipment on the ground must also include a back-up battery, or a second radio, as well as a radio to be able to directly communicate with the pilot where necessary (such as aborting the jump, or moving the spot).

As regulated by CSPA PIM 1, you are required to have a second means of communication with your student in the event of breakdown of the radio system. There are a variety of means at your disposal, among these: loudspeaker, arm panels, giant field arrow, and the use of designated points. You must ensure that the alternative means of communication is easily understood by the student and taught well during the training in class.

The 6 Phases of the PFF Program Skills Grid (...)



Equipment (...)

7. Altimeters and Audible Altimeter

You and your student must wear a wrist altimeter at all times. Teach your student to be responsible and to monitor the altimeter from the first jump, including setting it to zero before each jump. Also warn them that it will be normal to see a difference in altitude between their altimeter and that of the other jumpers during the ride to altitude (Lag).

The use of a chest-mounted altimeter on your student is a recommended practice. You can read the altitude throughout the descent without losing sight of your student. Your student deserves your whole supervision; do not lose valuable seconds by consulting your wrist altimeter.

Since safety is your prime objective, your judgment should dictate the use of an audible altimeter for yourself. You quickly lose the notion of the freefall time when you face a difficult situation with a difficult student. You will need all the tools at your disposal to solve these difficulties. The audible altimeter is invaluable tool that you should use.

It is also a good practice to get your student accustomed to the audible altimeter. If you use it, adjust it to about 500 feet above the opening altitude so that it does not generate a flat-line emergency ring.

8. Automatic Activation Device (AAD)

Nowadays, it is inconceivable for a PFF Instructor to jump without an AAD. Teaching freefall is the most advanced instruction by far, but it also represents the greatest danger. It is only a question of time before you meet the student from “hell”. The AAD may save your life, and is your best insurance policy.

There are several makers of AAD on the market. Your student must know the way to check and adjust the AAD used on the student gear. Ensure that the student knows the opening altitude for the AAD, but engrain with the student the idea to never depend on it. The AAD must be seen as a guardian angel, a safety device of last resort.

9. The Video Camera

Video cameras are small and easy to use today, so any good PFF Instructor should make use of one. The instructor, however, should not play the cameraman but concentrate on his duties as an instructor. The video will be sufficient to point to the right maneuvers and positions to improve during debrief. Make sure your camera does not have any snag points (certain camera mounts will catch, and should not be used) and watch the pilot chute toss of your student. The turbulence created by the proximity of the instructor increases the likelihood of entanglement of the pilot chute with a camera mount on your helmet. Stay alert!

The 6 Phases of the PFF Program Skills Grid (...)

In-Flight

Seat your student comfortably in the aircraft, and note the order of exit (after fun jumpers, before Tandems, based on the opening altitudes) and the center of gravity. Take a seating position to be able to communicate easily with him (sitting behind or beside, not in front). Teach your student to protect the equipment by covering the handles during the climb or during any movement within the aircraft. They quickly learn how to protect the front part of the equipment but too often neglect the back flaps/pins. They simply forget the thickness of the harness and the presence of the pilot chute and the closing pins. Remind them that they must pay attention to the walls of the plane and other jumpers sitting behind them in order to protect all parts of the equipment.

1. Verbal and Mental Rehearsal

At 4000', ask your student to carry out a mental rehearsal, calmly and with the eyes closed. At 8000', ask him to verbally review the jump sequence, from the exit to the opening of the parachute. You will be able to check the level of nervousness and to make any final adjustments. Avoid long explanations, stick to what was taught, remain calm and help to increase the degree of confidence while reiterating that they are ready and that they know the jump well. Avoid answering questions about the canopy control; rather ask the student to concentrate on the freefall and remind them that the Ground Control Instructor will be there to assist once they are under canopy.

2. Reviewing Hand Signals

The review of the hand signals should be carried out immediately after the verbal review. Ask your student to explain the signs as you reveal them one-by-one. Re-ask the meaning of a signal at the end of your routine if the student hesitated at the first demonstration. Conclude once again with some key words of encouragement to increase the degree of confidence.

3. Equipment Check before Exit

In preparation for the exit, check your own equipment first so that your student sees you as a role model, then ask him to make his gear checks, for example 3 Straps and 3 handles, and ask if you may check the closing pins (main and reserve, AAD). After you have checked the equipment, reassure one last time and say that the equipment was checked, that all is in working order and that everything is ready for the jump.

The 6 Phases of the PFF Program Skills Grid (...)

In-Flight (...)

4. Spotting – Exit Point

In an ideal world, the student will learn how to gradually determine the exit spot in three stages:

1. First of all, he will simply locate the landing zone by pointing to it from the door.
2. Then, he will determine the exit point with the assistance of the PFF Instructor.
3. Finally, he will be able to calculate the proper exit point under the supervision of the instructor.

The PFF Program does not offer very many jumps for the student to completely understand spotting techniques. The PFF Instructor makes only the introduction for training how to spot; the technique will be refined later by coaches.

In Canada, more and more dropzones have large turbine aircrafts. It is an advantage for the jumpers but it generates a problem in the process of training for spotting. Indeed, the exit point is often determined by GPS and worse still the student is positioned far from the door, late in the exit order. It is frightening to see a parachutist opening the door and jumping immediately after the pilot turns on the green light without ever taking a glance below! You have the possibility of changing this behaviour, which is already too widespread, by educating the new jumpers about spotting from large turbine aircraft.

Devote time on the ground to discuss the strength and direction of the winds in relation to the ground, use an aerial photograph of the landing site and the Flight Data weather reports. On the aircraft, use the seconds between the departure of the preceding group and your exit with the student to give additional teaching time by stopping and looking out the door with them.

The first step will remain the same: you will indicate the landing zone to your student by pointing to it, and have the student confirm they see it as well, and confirm that there is no traffic below. If the student does not recognize the dropzone from the door of the aircraft, proceed with the jump; review the aerial photograph once back on the ground. At the second stage, your student will calmly point the landing area to you before exiting. For the last stage of training, your student should determine a precise exit point on the aerial photograph before boarding. Before the exit, your student will look below then, after a short analysis of the ground, will communicate the exit point to you: GOOD, SHORT or LONG. The judgment of the exit point will have to be discussed with the aerial photograph during the debriefing, not at the door. The use of large turbine aircraft and GPS forces us to innovate to teach the exit point. The price to pay is relatively low, compared to the advantages of this type of plane.

The 6 Phases of the PFF Program Skills Grid (...)

In-Flight (...)

5. The Exit

The type of exit and position depends on the type of plane that you use. Your senior instructor will undertake to teach you the most stable way to make the exit according to your type of plane. The exits will always comprise of three stages that you will have to teach:

- Positioning,
- Motion/departure
- Body position on launch.

The Motion is particularly important since it is with this stage that you will synchronize the departure of the student and instructor(s). Take time to practice this crucial stage on the ground since it will determine the departure and the freefall that will follow. A mis-timed departure often generates a chaotic jump. In general, three good practices on the ground greatly increases the chances of success.

The PFF program uses these 5 types of exit:

1. Exit with 2 instructors holding the harness, student stable
2. Exit with 1 instructor holding the harness, student stable
3. Exit with 1 instructor without holding the harness, student stable
4. Exit with 1 instructor without holding the harness, student intentional unstable (ride the slide, dive out, front loop, etc.)
5. Solo Exit of the student with simple supervision of the instructor

During exit with two instructors with a harness hold, the outside instructor must climb out first and remain in the door in order to block the door from the student, and then take the student's harness. With the signal of the inside instructor, the outside instructor will relax his door position to make space for the student.

The inside instructor, whether a 2:1 or a 1:1 exit, will firmly take the student's leg harness before motioning the student to take position. Avoid any visual contact with your student until you are entirely ready, and then make a large head nod to the student saying that you are ready.

The key to the body position on exit is:

- Hips forward
- Head back
- Arms and legs stretched wide

Students should practice thrusting their hips forward immediately after stepping off the airplane.

The 6 Phases of the PFF Program Skills Grid (...)

Freefall

1. Body Position

For the instructor, the analysis of skills is the key to being effective. It is here that your experience as a Coach 2 or tunnel coach will be beneficial for you. A good analysis of the student's body position will enable you to keep one step ahead. For example, if you see a "twisted" body position and slightly "d-arched", you will know that there is a risk that the student will flip over onto the back, especially if the legs are folded up to the buttocks; for that you will have to quickly use your booties or take your position on the side with a harness hold. With a relaxed and flexible student, you will have a faster fall rate. You have the responsibility to always remain within an arms-length reach of your student. Be attentive of their body position and watch for abrupt changes and your reaction time will be decreased by half.

Work to build a relaxed body position throughout the freefall; without this, your efforts will be useless. Take any time necessary to help relax your student. Also insist that they keep the ideal box position as their foundation and their head well back; this position enables you to communicate more easily. The head controls the position of the body; it is preferred to give a signal to raise the head if you wish to improve the arch. The boxman position is the best for the student since it offers the most stability without too much effort. The mantis position, as taught in the tunnel, can be introduced later in the progression.

2. Circle of Awareness (Observation Circle) and Altitude Awareness

Your student must keep their head quite high and their hips out in front for the exit launch. Once stable, especially for the first jump, the student will have to make a Circle of Awareness, also called an Observation Circle: (Reffered to go HARM earlier sections)

1. Altitude
You ensure that the student takes the time to read the altitude and not just look at the dial of the altimeter. Have them speak the altitude aloud to you (watch their mouth).

2. Main-side Instructor
Communication with your student is very important. This instructor will have the opportunity to analyze and correct any body position and finally to give an approving Thumbs-Up (or a head nod) signal before the student checks with the Reserve Side.

3. Reserve-side Instructor
In the same manner, this instructor should analyze the body position and then give signals for correction as necessary. The student should correct the body position indicated, and then wait for your approval before proceeding with the jump plan.

Whether the student looks left or right, reserve first or main first need not be over-emphasized; it is only important that they are aware of their altitude and check with both instructors for signals or corrections.

You will note very quickly in your career as a PFF Instructor that the students who give a good performance are also those which can communicate well and show good awareness. Therefore, use the stages of the Circle of Awareness to provide the foundations of the communication that you expect.

The 6 Phases of the PFF Program Skills Grid (...)

Freefall (...)

3. Signals

Since you cannot speak in freefall (other than mouthing commands), you will have three means of communicating with your student:

1. Verbal
2. Tactile
3. Signals with the hands (Visual)

VERBAL

It is possible to be understood by the student during the first seconds of the freefall. You can use this time to decrease the period of sensory overload by shouting some simple words to him. You can also ask him to "ARCH". It does not matter the words used; remain concise and use them with your student during the briefing.

An extremely effective technique consists of pronouncing the signals at the same time as doing them with your hand. It is easy for the student to read your lips and confirm his comprehension of the signal. Pronounce slowly with a big smile. That will contribute enormously to making the student relaxed. They can easily read the majority of the signals: relax, arch, head, legs, open, etc.

TACTILE

Your student must have received the basic instructions about the tactile (touch) signals before the first jump. For example, a slap on the buttocks indicates to arch, a slap on the calf means to straighten the legs more, a vigorous shake of the harness indicates for him to open or do something, etc.

Flying techniques have evolved enormously and the tactile signals are not limited any more, but these simple gestures are mainly used at the time of the first jump. You should be sufficiently skilled to fly within an arms-length reach of your student; it does not matter his body position in freefall. Use your flying skills to remain within reach and to refine their body position. It is easy to raise the chin of a student who is looking down, to turn his hand so that he sees the altitude better, etc. The possibilities are infinite if your student is receptive and "relaxed".

HAND SIGNALS

Ensure that you know the signals that are used at your home dropzone very well, since these can vary slightly from one school to another. Your student must have sufficient time to study the signals. Explain each signal and write them down on paper to facilitate the learning. The student must react instantaneously to your signals during the practice time on the ground in order to maximize the freefall time. A hesitation or, even worse, confusion in the sky can unfortunately lead to a failed jump.

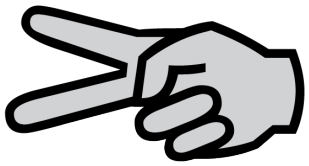
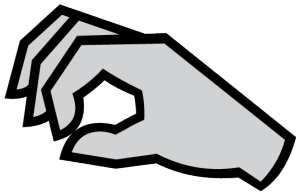
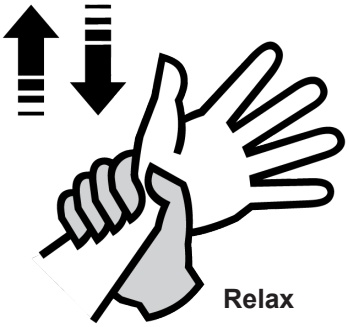
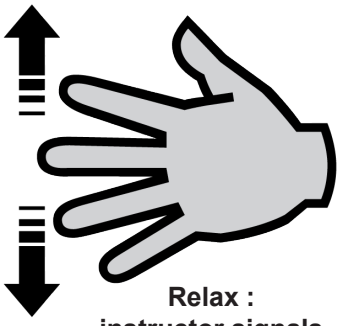
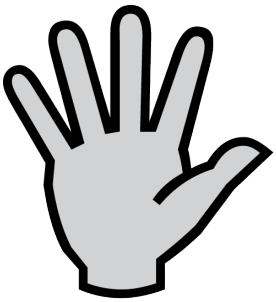
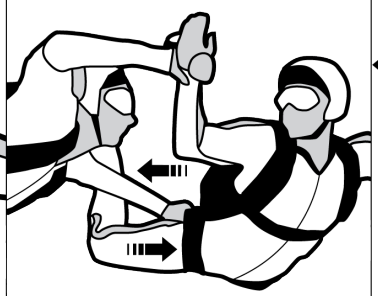
Here are a series of signals used in the Canadian PFF Program:

Note: These might differ at your dropzone. It is important that all students and instructors at a dropzone adopt the same signals to avoid any possible confusion. Check with your home dropzone for specific signals used there.

The 6 Phases of the PFF Program Skills Grid (...)

Freefall (...)

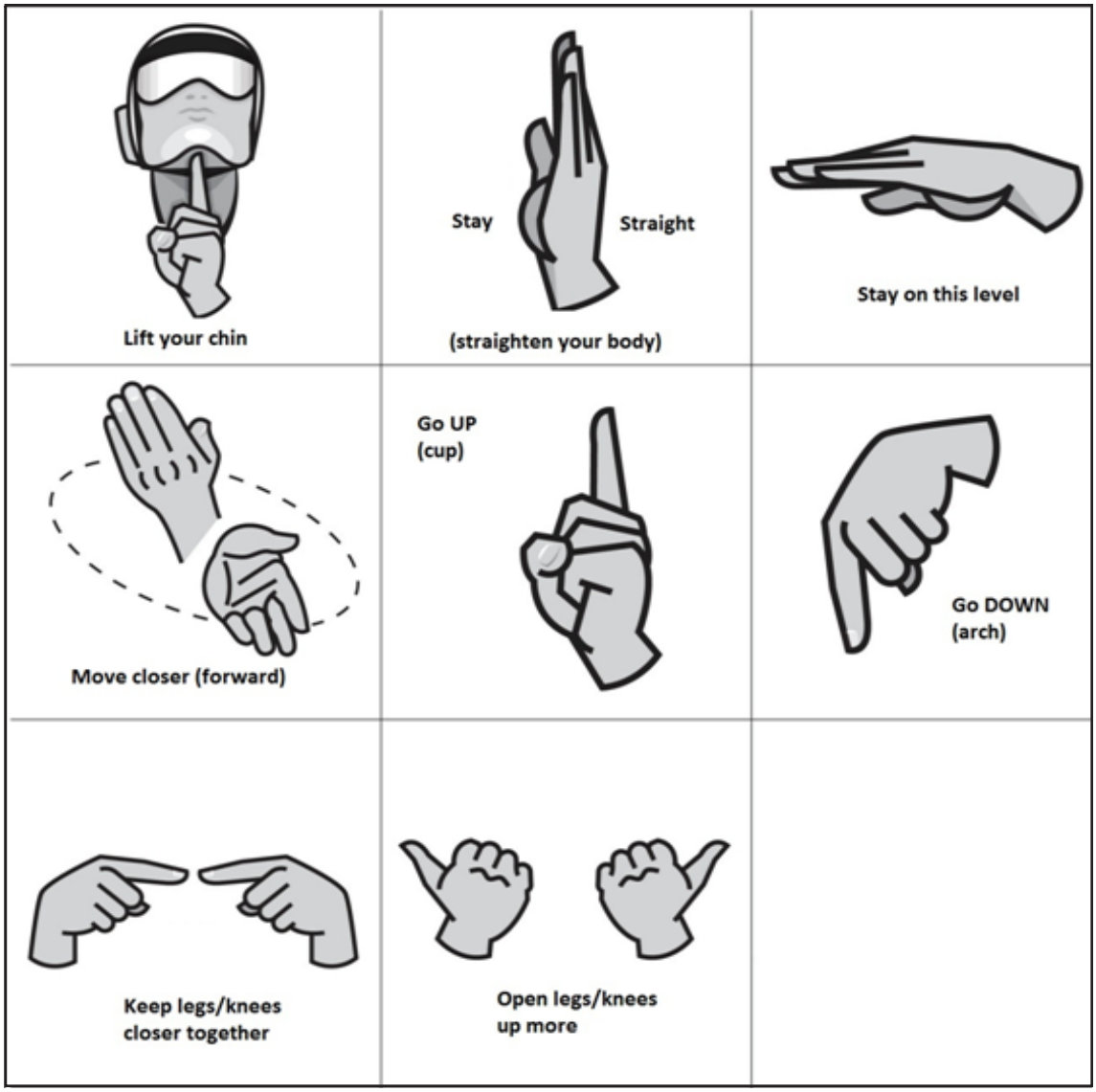
3. Signals (...)

 **Arch More**	 **Extend the legs**	 **OK**
 **Check arm position**	 **Turn in direction pointed**	 **Circle of awarness (altimeter check)**
 **Relax**	 **Relax : instructor signals**	 **Stop**
 **Instructor sticks out tongue : Practice Pall**	 **Instructor shakes harness : Do something, Open**	 **Wave-off : OPEN PARACHUTE NOW**

The 6 Phases of the PFF Program Skills Grid (...)

Freefall (...)

3. Signals (...)



The 6 Phases of the PFF Program Skills Grid (...)

Freefall (...)

4. Opening

A stable deployment is one of the most important items to be controlled during the PFF training since it facilitates proper canopy deployment. Teach the opening movement using the PPAF technique with a harness and a pilot chute representing the real gear as accurately as possible. The use of a realistic teaching aid will increase the chances of success of your student. At the time of practice, the student must:

- Move slowly and calmly, firmly gripping the pilot chute with the right hand.
- To compensate, place the left hand far out front, hand opened and palm facing fowards.
- To release the pilot chute, turn the wrist backwards when the right arm is at full extension.
- Keep the head tilted backwards during all whole process.

During the freefall, the Main Side Instructor (MSI) must pay detailed attention to the grip of the simulated throw of the pilot chute, whereas the Reserve Side Instructor (RSI) is focused on the position of the head and the left hand well above the head. In 1:1 with your student, remain in front of him and be attentive with the position of the head and the left hand during the practices. If needed, give the sign to keep the chin raised at the same time as the signal to practice the opening. During the first practice pull, without interference from the instructor, follow the arm rotation so that he can concentrate on the arm movement for opening. You will be able to introduce heading maintenance at the time of the opening as soon as the basic movement is controlled. For that, simply ask him to turn to face you if he deviates off course after a practice, make the usual recommendations/signals and start again.

The opening sequence:

6000': The student should STOP all manoeuvres and concentrate on maintaining a good arch, push hips out even more, press legs out.

5000': The student is already conscious of altitude and initiates the opening movement.
If the student is not altitude aware, the MSI, encourages him to look at the altimeter.

4500': The student initiates the opening movement.
If not, the instructor gives a second chance by shaking the student's harness or by signaling to open if the instructor is in front. In this last case, the instructor must again take his place on the side of the student.

4000': The student is aware of the opening process and the instructor observes.
If the student is still unaware of the altitude, the instructor initiates opening by pulling the student's pilot chute. The pilot chute should be in the air by 3500' at the latest, otherwise the PFF Instructor must intervene. (Unusual situations, such as the need for reserve, will be discussed later).

The 6 Phases of the PFF Program Skills Grid (...)

Canopy Control

You must know the First Jump Course material since the PFFI has the privilege to make the formal training for “freefall”. If you are only involved with the jumps, you have the duty to ensure, through practice, that the student has learned the canopy theory correctly. Use the same terminology as in the classroom; carry out the manoeuvres in the training manual that the First Jump Course Instructor explained to him. The consistency and coherence of teaching will facilitate the training and will indicate your professionalism and knowledge.

Your review before boarding should take only a few minutes since the matter was already demonstrated in class. Avoid long explanations that could unnecessarily increase the level of stress of your student. As the PFF Instructor you must simply confirm that the student knows the important points before proceeding to the final rehearsal of the exit and then boarding. Confirm that he knows:

- The strength or speed and direction of winds
- The landing direction
- The exit point
- The direction of the landing circuit, right or left according to the DZ
- The designated point for the entry into the landing circuit
- The designated point for the beginning base of the landing circuit
- The designated point for final approach for landing
- The approximate height to flare according to the wind

It does not matter the circumstance; the “Must Know” points seen in class by your PFF student are easily assessed during each stage of canopy control using the following questions:

1. The Exit Point

- What is the strength and the direction of the winds on the weather report?
  Or what is a rate 1 turn?
  Or why is a Wind Drift Indicator useful?” (According to the method used on DZ)
- What is the typical exit order?
- Explain the difference that the exit order makes on the spot.
- Explain how obstacles influence the determination of the spot.
- Explain how exit separation influences the spot.

The 6 Phases of the PFF Program Skills Grid (...)

Canopy Control (...)

2. Visual Test

- Describe the 3 stages of the visual test (standard answers):
  - >> Rectangular canopy
  - >> Lines straight (not twisted)
  - >> Slider at bottom (or more than ½ way down)
- Explain each stage

3. Flight Control Check

- Describe stages of the test (standard answers):
  - >> Release the brakes
  - >> ¼ turn on the right
  - >> ¼ turn on the left
  - >> Complete Flare
- Explain each stage

4. Locating of the Landing Zone (on an air photograph and the landing itself)

- Show me important reference points or landmarks.
- Show me the target or landing zone.
- Show me major obstacles.

5. Penetration Test

- Explain your actions to check the strength of the winds.
- Explain what leads you to think that the wind is strong.
- Explain what leads you to think that the wind is weak.

6. The Landing Circuit (depending on the winds of the day)

- Give a reason to make a circuit to the left/right.
- Show me the entrance point in the landing circuit (downwind).
- Show me the ideal site to start the base (cross wind).
- Show me the point indicated for the beginning of the final approach (facing the wind).

7. The Landing (depending on the winds of the day)

- What will be your direction for the landing? (generally facing into the wind)
- At what it height to start the flare? (10-15 feet above the ground)
- Described what your body position should look like in final approach.
  (legs under the body, knees together and bent, arms straight up, eyes looking forward)
- Show me the position of your legs on landing.
- What are your actions once you touch the ground?

The 6 Phases of the PFF Program Skills Grid (...)

Canopy Control (...)

8. Standard Orders with the Radio

It is important to realize that you have very little time to make your student autonomous under canopy. You recall that to obtain his Solo certificate, he will have to be at ease with the handling of his canopy and to land at least 3 times within less than 50m of the target without any help from the radio. You have a duty to transfer this responsibility for canopy control to him, relying less and less on the radio control. It is preferable that he lands further away on his own after having removed the radio, rather than to land on the target while under your radio control. Correct only the major errors which could lead to making a risky landing. One needs courage to let your student make (safe) errors for landing. Devote time for a good debrief on the ground and the canopy training will be done much more quickly.

Some Tips

- Explain the reason for the manoeuvres that you request.
- Allow time for the student after the opening before speaking, so he can do his tests.
- Take a break from your commands to allow time for students to interpret information.
- For turns, ask him to take a point of reference (e.g. turn your canopy to face…)

Typical Assistance

For the 1st jump PFF

- Assistance radio supplemented with explanations of the various stages of the descent
- Help with finding the landing zone
- Help with the landing flare

For the 2nd jump

- Reduced radio assistance, especially when high
- Help with finding the landing zone
- Help with the landing flare

For the 3rd jump

- Minimal radio assistance, according to the need of the student
- Landing autonomous – student should flare, but radio controller will be ready

For the subsequent jumps

- Supervision and assistance as needed

The 6 Phases of the PFF Program Skills Grid (...)

Technical Knowledge

You should provide the latest editions of PIM 1 (Rules and Regulations) and PIM 2A (Basic Skills) during the initial formal training. Too often the PFF Program is taught in practice only by leaving the students without proper knowledge in writing. Encourage your student to consult the Parachutist Information Manuals that you gave to him at the beginning of the course. Classroom training cannot be complete without the technical training relating to all the stages of the jump. Some of your students are visual learners and the act of reading technical information will improve their confidence and even their performances. This knowledge will also prepare your student with the examination for the Solo certificate and later for the examination for A-Certificate of Proficiency.

Module 3 The PFF Instructor

Description of a Typical PFF Instructor

Many qualities are necessary to become a PFF Instructor. Read the following list honestly and ask yourself if you really represent these ideals. If you recognize yourself in the vast majority of this list, then you might be ready to become a PFFI. Otherwise to avoid disappointment, you should perhaps continue your progress and take the training later.

- Highly skilled in 4-way formation skydiving
- Strong experience as a Coach 2
- Ability to fly without using their arms
- Mastered the technique of delta
- Excellent skill analysis
- Professionalism
- Calm
- Understand adult education (Andragogy)
- Positive attitude
- Strong experience in education or teaching
- Enjoy contact with students
- Focus on quality of education rather than the number of daily jumps
- Does not depend on tandem jumps or camera to have a good standard of living

Tasks of PFF Instructors

The tasks of the PFF Instructors are many and varied at each stage of the jump. A good teamwork between instructors makes a major difference on the jump and on student performance in freefall. For levels with 2 instructors (2:1), team up with an experienced instructor to take advantage of their experience. Whenever possible, keep the same partner to build instructor compatibility in freefall and develop a body language that will make you an effective and efficient team.

Remember that a clear division of labor in the team is important for your safety and that of your student. When in doubt, do not assume an important point was covered by your partner; question the student often on what they know.

In general, it is straightforward to determine the division of labor with only a few tasks assigned to the specific position of each instructor. The other tasks will generally be assigned to the instructor in charge of the student. The simplest way is to know the specific tasks of freefall for your position for the jump and then determine a team leader who will take charge of the student and other tasks. The instructor in charge should be the one with the greater availability on the DZ as a lot of time is needed on the ground in the preparation of the student. In turn the team leader may choose to delegate tasks to another instructor if necessary.

Here is a list of tasks of the PFF Instructor and those inherent to the Main Side Instructor (MSI), and the Reserve Side Instructor (RSI) for the freefall portion.

Tasks of PFF Instructors (...)

General Tasks for either PFF Instructor

Preparation : The team leader is responsible for:

- Knowing the student
- Establish goals with the help of the logbook and Skills Grid
- Teach the skills needed for the jump level
- To practice the physical skills to the autonomous stage
- Use the tunnel or the training aids that are necessary
- Determine the fall rate and what equipment to use
- Review the emergency procedures
- Manifest
- Read the weather report with the student
- Confirm weather
- Supervise the equipment check and jump suit selection
- Review the winds and direction for landing
- Review the designated point of entry into the circuit, crosswind and final approach
- Perform a complete ground rehearsal review of the jump at the mock-up before boarding
- Perform a radio check
- Confirm the presence of the GCI

In-Flight : The team leader is responsible for:

- Give instructions to the pilot
- Pre-boarding gear check
- Supervise the take-off seating position in the plane, seatbelt, helmet
- Verify the altimeter settings (visual and audible)
- Giving orders for an emergency exit if necessary
- Guide the student from the DZ
- Use relaxation techniques if necessary
- Oversee the mental rehearsal around 4000’
- Make a verbal review around 8000’
- Review hand signals
- Confirm weather, clouds and wind
- Communicating with the GCI, where applicable, before the jump
- Final assessment of the equipment and pin check
- Give the appropriate keywords
- Confirm the spot
- Assist the student if necessary with the climb-out

To exit the plane, the first instructor is responsible for blocking out the door then taking the student’s leg-harness before telling them to climb-out. For this part, the instructor is responsible for holding the student by the leg-strap to control his movements before the other instructor has initiated the exit. One instructor will be responsible to give the signal to the student to begin the climb-out. One of the instructors will determine the time of climb-out and exit launch by synchronizing with the initiation movement of the student. The inside instructor have the task of keeping the group as tight as possible. The inside instructor also has the task to synchronize the exit with the outside instructor when synchronizing the movement of the student.

Tasks of PFF Instructors (...)

General Tasks for either PFF Instructor (...)

Canopy : The team leader is responsible for:

- Supervise the canopy flight practice
- Supervise the landing pattern
- Take control radio
- Landing with the student in the case of an off dropzone landing

Technical knowledge and after jump : The team leader is responsible for:

- Receive and congratulate the student on landing
- Assist in the collection of the canopy
- Debrief the flight performance in freefall and under canopy
- Determine the level of awareness of the student
- Determine the objectives for the next jump
- Complete and sign the logbook and recording of the school
- Practice the skills for to the next jump

Tasks of PFF instructors (...)

Specific tasks for the Main Side Instructor (MSI)

In freefall, the MSI is responsible for:

- Stay with the student in case of tumble on exit
- The student's lower body position: hips, legs, knees, feet
- Grabbing and throwing the pilot chute
- Communicate body position corrections to the RSI, when he is flying in the front
- Stay with the student in freefall (up to 3000 'if necessary)
- Making the decision to release the student completely
- Reconnect at 6000' when the student is flying with instructors without harness hold
- Open the student's pilot chute no later than 4000'
- Turn 180º and track after the opening the student canopy

Specific tasks for the Reserve Side Instructor (RSI)

In freefall, the RSI is responsible for:

- Releasing the student if more than 2 tumbles during exit
- The student's body upper body position: head, arms, shoulders, torso
- Communication with the student
- Position themselves in front of the student, face to face, for turns
- The position offset of the left hand at the start of the opening
- Position on the back side of the student to open when needed
- Opening the reserve at 3000'
- Turn 180 º and track after the opening of the student canopy
- Make the decision if the student is ready for 1:1 jumps
- The stability of the student during opening

Teamwork and Communication between Instructors

As a junior PFF Instructor you will benefit from the expertise and know-how of an experienced instructor. You should team up with an instructor whose values appear to be similar to your own. Follow and assist with his preparations and student training on the ground to gain experience. Pay attention to questions that the student will raise during the practice session; this will allow you to have a better idea what might occur in freefall and have a head start when the events start to happen. It is during the freefall time beside your student that will learn to how fly better. It is an art to recognize the right time to release your student and it is often a fine line between the decision to keep a grip on the student and to let him fly unaided. Jumping regularly with your PFF partner will help you to develop the necessary expertise. Only experience will enable a good team to fly in their quadrant, calmly, close to the student even if his position and heading are not perfect.

Good communication between a team of instructors is often a matter of simple eye contact, facial expression or a head nod. These tiny yet so obvious signals between team members go completely unnoticed to the stressed student. Remember that communication with students is the responsibility of the RSI when he is up front. The MSI then communicates improvements in body position (such as the legs or the arch) to the RSI who is out in the front of the student. The RSI, in turn, communicates the change directly to the student. Avoid conflicting situations where tactile and visual signals are coming at the student from all sides, causing confusion. Signals to students must come from from only one instructor at the time

A good PFF team can, without too much difficulty:

- Recover a bad exit (e.g. tumble)
- Refine the student's body position
- More quickly release the student
- Give freedom to the student to fly without assistance
- Communicate an equipment problem
- Communicating altitude concerns
- Communicate any problems
- Catch an unstable student
- Increase student stability at the opening.
- etc.

Quadrant Flying

Quadrant flying is a simple technique that you will have a perfect command of before the end of your PFF training. Quadrant flying takes place at the first jump when you are 2 instructors and as you release the student to fly without assistance (no grips). Simply, the Reserve Side Instructor out in the front of the student becomes the team leader while the Main Side Instructor side must remain very close to the student, keeping an eye on the RSI to monitor his movements. The main task of the RSI is to stay out in front of the student and compensate for any lateral (proximity) movement. The MSI, however, must remain perpendicular to the student, 90 º with the RSI.

Quadrant flying is constantly used when jumping with two instructors. The RSI must learn how to turn right or left while out in front of the student, and then invite students to make a turn to follow in front of him. The MSI, always maintaining a very close proximity, must remain perpendicular to the student (orbiting) during the rotation, which will restore a configuration of 90º with the RSI. The work of the instructors is to keep the MSI at a 90º angle with the RSI in case the student loses heading or makes an unintentional 360º turn.

Quadrant flying, when practiced with discipline, will allow instructors to maintain an orderly position in relation to the student even when he has problems of stability and heading control.

Module 4 Student Progression

Progression

The key of an effective and fast progression is simple: take charge of the course of the program, because you are the expert. Be attentive to the needs for your student, but do not let him control the frequency of the jumps. It is strongly recommended to condense the jumps of the program in a very short time. It is definitively the key to success to jump as much as possible within a single day! Reserve at least 2-3 consecutive days to finish the training or, at least, to pass by the crucial stage of the student's first solo jump without a PFF Instructor. Take fewer students per day and give priority to those which are committed to obtaining the Solo certificate. A majority of the students, if they are well supervised, have sufficient energy to make from 3 to 4 or maybe even 5 jumps per day. Encourage them to exceed them self! We all know that the first jumps are both physically and emotionally demanding and that they generate a good amount of stress. We also know that this stress will decrease if the jumps are made over a shorter period. Take advantage of this to maximize the performance of your student and encourage him to make several jumps per day.

Criteria to Progress Student to the Next Level

Since the objectives are clearly established for each level, it will be very easy to determine if the jump were successful or if one must be repeated. Evaluate the performance of your student with the objectives of the freefall and canopy control in order to make an informed decision.

Freefall

To pass to the following level, the objectives concerning safety must be met without compromise. Thus, a student who was not able to open his parachute at Level 1 will not be able to pass on to Level 2. A student who will has not shown stability with 2 instructors will not be able to pass onto a 1:1 jump. Use common sense to compare the less critical objectives against the performance and thus to determine the result. Avoid stating that the jump was a failure, as that could de-motivate your student and harm his focus and as a result the performance for the next jumps. Instead, underline what was performed well, the strong points and explain that the weaker aspects of the performance could easily be corrected at the time of the next jump (with ground practice of course). Offer a real chance to recover the next jump while slightly modifying the contents of the jump to include the required improved performance areas. Be flexible and adapt the "freefall" part to the needs of your student.

Canopy Control

It is rather rare to re-do jump with a student if he did not meet the objectives under canopy for this level. Keep in mind that these objectives are very flexible and that they can be easily transferred from one jump to the next. In general, you seek a total overall competence where all the manoeuvres under canopy are tested before the Solo check-out jump. Even if the performances are excellent in freefall, additional jumps can be made necessary before the Solo certificate is achieved if your student still needs radio supervision. Refinement under canopy can easily be made at the time of the solo jumps and to thus avoid a repeat, and to not discourage the student's progression.

Progression (...)

Required Preconditions for Reserve Side Instructor (RSI) to Release the Student

In this program, the Reserve Side Instructor (RSI) will have to leave his position beside the student to place himself face-to-face in front of the student as soon as he shows sufficient stability. Only the MSI will keep a grip on the student.
The student will be considered to be stable if he shows the following criteria:

- Little to no movement
- Head up and looking out toward the horizon
- Legs well extended (not straight, but not 90º)
- Good degree of arch
- Good overall body position (e.g. arms)
- Is able to grab and toss the pilot chute on their own, without assistance

Moving in front as soon as possible, the instructor will contribute to:

- Relaxing the student
- Improve the communication with the student
- Facilitate the positioning of arm and of the head
- Demonstrate the correct body position
- Show how to throw the pilot chute
- Assist with turns

Preconditions for 2 Instructors to Release the Student

In addition to the criteria already stated for release by the RSI, the following are some factors to be respected so that both instructors may safely release the student:

- Show a solid, constant arch (no buffeting)
- Able to start and stop small controlled turns (90º)
- Maintain the correct body position during turns
- The RSI out in front has control of the situation
- The MSI can match the fall rate to be able to let go
- The MSI is confident of being able to fly less than one meter of the student at any time
- Altitude is more than 7000’ since recovery (re-take the harness grip) must be made by 6000’

Preconditions to Pass from 2 down to only 1 Instructor (2:1 to 1:1)

The student will have shown:

- Good body position during exit
- Stable position of freefall
- Altitude awareness
- Able to open his parachute (without assistance)
- Able to fly without a grip from the MSI at any time in the previous jump
- Able to maintain heading

As for the instructor, he will have:

- Accompanied the student at the time of the previous jump
- Shown his ability to maintain the fall rate of the student

Progression (...)

Preconditions to make the First Solo Jump

The first solo jump must be made the same day as the last jump with an instructor where the instructor did not have had to make any contact (re-grip) with the student during freefall on the last 2 jumps.

The student must be able to:

- Make the equipment checks necessary
- Demonstrate proper emergency procedures with ease
- Determine the exit point before boarding
- Brief the pilot
- Identify the opening point or at least to check its accuracy
- Exit stable
- Regain stability if necessary
- Make at least 2 turns (left, right) 360º in freefall
- Open at the recommended altitude
- Recognize the stall point of the parachute (stall recovery practice)
- Control his parachute with rear risers
- Direct his canopy through the landing pattern without any assistance radio
- Land within less than 50 meters target

Progression (...)

The Solo Check-out Jump

Here are the required points, as described in the PIM 2A, for the Solo Checkout Jump necessary to obtaining the Solo Certificate. This evaluation jump must be made under close supervision of a PFF Instructor or Jump Master. The passing mark is 80%, i.e. the student must have carried out at least 20 of the 25 following tasks well, including the mandatory pass requirements. Several DZs choose to film the jump. In addition to checking competencies of the student and being a complete tool for debriefing, the video offers an unforgettable memory.

The student must:

1. Plan your dive – you may use a Coach as reference
2. Practice your dive
3. Get manifested
4. Assess weather conditions (canopy/spotting)
5. Check your equipment
6. Don your equipment
7. Arrange and receive a safety check and give one to another jumper *
8. Final rehearsal at mock-up / aircraft
9. Board aircraft safely and brief pilot
10. Take off routine – helmets, seatbelts, conduct
11. In-Flight mental rehearsal
12. Pre-exit handles check *
13. Arrange for and receive a pin check *
14. Spot the aircraft (includes determining the spot)
15. Exit without assistance
16. Stable exit
17. Figure 8 on heading (may already be completed)
18. Altitude awareness *
19. Activate on a heading, stable, at prescribed altitude *
20. Complete canopy checks
21. Fly a pattern to the landing area
22. Safe landing facing into wind within target area
23. Return all gear to appropriate places
24. Demonstrate awareness and recall of jumps events
25. Fill in logbook accurately and completely

Total Mark: Pass = 20 / 25, including * mandatory to pass checkout jump

Progression (...)

The Low Altitude Jump for Solo (Emergency Aircraft Exit Simulation)

The first low altitude jump as part of the CSPA Solo certification can be stressful for students who came through the PFF program. Indeed, for many students, this jump will be their first experience jumping out at a low altitude. The following steps are important to limit the student's stress and help improve their performance.

The exit into the relative wind on this low altitude jump should be similar to each of the preceding jumps made at altitude. Supervise his exit, and if possible follow him out to give the best debriefing possible. Your student will learn to master this exit to trust that it is still safe.

In addition to the usual preparation, your briefing before this jump should include:

- Typical instructions to the pilot
- Exit altitude
- Direction of the pass
- Approximate point to open the door
- Number of jumpers exiting

The Exit Altitude

While the recommended exit altitude is 4500', feel free to add a few hundred feet. You could, for example, ask for a pass at 5000'. This difference will add precious seconds in the eyes of your students and this small "cushion" helps make him more comfortable.

The Freefall Time

Without going into detail, explain to your students that he has about 12 seconds to become stable before opening his parachute as he will travel 1483 feet during this time. Remember that at this stage of their progress they do not have the technical knowledge of acceleration and terminal velocity. Have the student slowly count 10 seconds out loud to make him aware of the enormous amount of time it represents.

Opening Altitude

Insist that your student opens by 3500 feet even if he is already stable before this altitude. This is to prevent an unstable, panic-opening a few seconds after leaving the aircraft. Too often the unstable student is nervous and quick to open their parachute; reading the altimeter will help keep track of real time.

Safety

Repeat the rule that they probably already know: Never sacrifice altitude for stability!

Explain that in the worst case the parachute must be deployed by 3000 feet, even if stability is not perfect. Finish your briefing with the student with a few words of positive reinforcement and encouragement and begin preparing for the jump.

Exit Control

As a general rule three way exits are easy to master even if the student does not have a perfect position. The experience of the instructors generally offsets the small flaws of the student. Despite all of your skills, knowledge and excellent briefings, sometimes you will find yourself in a compromising position from the plane.

Exiting 2:1

Before leaving, the two instructors must have a firm grip on the student`s harness. These grips will allow you to assist, and even to position yourself to see the student in the door in preparation for exit launch. As you learned in your training as a coach, a solid exit is essential to the performance of the rest of the jump. Take all the time needed to properly place the 3 jumpers into the door before giving the “OK” to the student to initiate the exit count.

With the majority of aircraft used in Canada, the student is already placed facing forward into the relative wind. As soon as the key instructor indicates that he is ready, the student should initiate the exit count: head up facing well forward, Ready-Set-GO! By having his head up, the student will more naturally adopt the arch position during the excitement of the moment of releasing the airplane. Exit in a slightly downward movement in order to synchronize the movement of the student. This small downward movement is very helpful to predict the type of initiation used by your student use. You will be able to anticipate the start and be a split-second ahead of the student’s launch.

A slow, rhythmic movement will produce an exit launch which will be easy for two instructors to follow.

An incorrect or jerky or stopped movement during the count usually complicates the exit timing. Instructors will have to be more attentive to the starting movement of the launch rather than what student might be implying through their motions.

A sharp movement down shows a fast start and too high of an exit jump. The outside instructor’s exit is much more important for timing, as the inside instructor is more than likely pushing the student out the door to help synchronize the exit launch.

You will meet students who become completely “frozen” in the door. Put your mouth into his ear and say loud enough to hear the exit count; ONE-TWO, or DOWN – GO, or READY-SET-GO! Be prepared for any eventuality as this kind of behaviour is indicative of an unpredictable exit launch. If the student does not respond, force the exit launch and re-train the student once back on the ground to exit on GO! It is essential that instructors have eye contact with each other to synchronize the exit. Keep a firm grip on the student’s harness while the outside instructor keeps the students focus. The instructor inside the aircraft must literally push the student to get things started.

Exit Control (...)

Exiting 1:1 with Grips

If you are alone with the student you must be on the main side (MSI) to keep an eye on and have access to the main pilot chute. 1:1 exits are generally much easier because at this stage your student has already performed one to two exits. Keep a firm grip on the student and exit with him. The type of aircraft used will dictate whether you have one or two grips on the student. Keep your elbows bent to stay close to your student. Fly when you leave and try to stay as level with the student as possible.

Exit 1:1 without Grips

The progress of your student will dictate how fast to proceed with making a no-grip exit. This exit usually generates anxiety for the students and sometimes even in the PFF Instructor. Use common sense before allowing the first free flown exit with your student. Make sure the jump previous jump has demonstrated:

- A solid, stable 1:1 exit
- No intervention from the instructor at or after the exit
- A solid, stable position during the fall
- The PFF Instructor can match the student's fall rate
- Successfully passed the previous level

You will be much more confident if your student has met all the prerequisites. To exit you have two choices: get out before your student to take a position outside like a videographer, or leave right after him in a delta dive. Each exit has its advantages and disadvantages; you choose the one that best fits your needs and that of the student.

	Benefits	Disadvantages
From the inside, delta dive out after the student	Impossible to leave without the student since you are following them	Can create a greater distance between the student and the instructor as a result of exit separation
	Delta dive down to the student is a lot of fun for the instructor	Possibility of missing the first few seconds of departure if the dive exit is not completely mastered by the instructor
		Not seeing the instructor might cause some stress for the student
Outside float	Much closer to the student during the first seconds of the jump	Danger of leaving before the exit of the student (fake-out or psych-out by the student)
	Easy to stay near a student who becomes unstable; faster response time when needed	Instructor could be a visual distraction to some students
	Requires less technical skills of the instructor; poised exit is easier than dive	

Exit Control (...)

"Tumble" Exit in a 2:1

The greatest chance of a "tumble" is on the first jump. The tumble is sometimes unavoidable despite your best efforts to control the exit. It is essential that all instructors know the PFF procedure that applies in cases of a tumble on exit.

Following a poor exit with 2 instructors you must:
- Try to hold the student into a position facing the relative wind
- Try to stop the rotation of the 3 way on the relative wind

If you cannot stop the tumble after two full rotations:
The Reserve Side Instructor (RSI) drops his grip on the student
- The Main Side Instructor (MSI) stabilizes the 2-way pair
- The RSI chases the 2-way and takes grips as soon as possible
- Signal the student to relax
- Continue on with the exercises for the current level

"Tumble" in 1:1

In 1:1 a tumble at exit is very rare. Although they sometimes occur, unstable 2-way exits are only temporary since it is very easy to re-stabilize. Simply apply the necessary corrections to your get your student facing the relative wind and to improve his body position. By the 1:1 exit, the student should know how to resume an arch.

Freefall Control

The freefall control techniques explained in this chapter require several practice jumps to learn how to maintain control. The use of the wind tunnel, where possible, will enhance your understanding of the wind forces that govern the involuntary movements and skills while reducing the number of steps needed to acquire skills.

Physical Control of the Student

In an ideal world, the instability of a freefall student is easily corrected by changing the position of his body by the use of hand signals. Unfortunately, students are sometimes so unstable that it can be difficult to make the signals or the student's level of attention is so low that he cannot change his position. It may therefore be necessary to physically control the instability of a student. The instability can occur in three forms:

- Turn,
- Forward movement
- Backward movement
- Back loop when the knees and hips are bent

In all three cases it is necessary to keep a firm grip on the harness at the hip, and the upper body near the shoulder. You will need to use the strength of your arms for maximum control.

<u>To Counter Forward Movement</u>
Stay close to the student with your elbows bent and press the hip down into an arch while lifting the student's shoulder with your hand or elbow. Try to get their head up. Remain perpendicular to the student and keep tight into them with your head.

<u>To Counter a Backward Movement</u>
Stay close to the student, keeping your elbows bent and hit on the shoulder as you press on the hips. With your elbow nearest to the leg, press down on the calf. If you can let go of the shoulder grip, grab and force the student's lower leg out straight. Remain perpendicular to the student.

<u>To Counter a Turn</u>
Stay close to the student. Push or pull your student's shoulder in the opposite direction of the turn to create a reverse movement. Extend your legs far from the student and point your knee in the opposite direction of rotation to counter it.

Freefall Control (...)

Stopping a Spin

You will need a lot of practice to distinguish between turns and an uncontrolled spin. A good instructor will allow the student the opportunity to understand and ultimately control unintentional turns. But the PFF Instructor must react promptly to turns that could degenerate into an uncontrolled spin. You will recognize a spin if a student is excessively tense/stiff, has a weak arch and the extremities (hands, feet) far from the center of the body. If the spin is extremely floaty then you have to quickly recognize it and respond quickly so that you do not lose the student above you as they helicopter away.

As a PFF Instructor you have a duty to always be close enough to reach your students at any time. Plus if you are close, the easier it is to stop a spin before it accelerates out of control. The faster the spin, the more energy it will take by you to stop. When your decision is made that the student is starting a spin, go directly into the student.

The techniques are called stop spin and “hook block”. As the student’s legs are turning toward you, slide your hand between the two knees and “hook” or “hang” from the second knee as it comes around. It is best to grab below/under the knee for the strongest hold. Ready your other arm to move toward the armpit of the student as he turns toward you in order to block the rotation. You need to be very solid at the front of the body by the arm to avoid being drawn into the rotation, or bounced off of the student; get your knee down and point it in the opposite direction of rotation to help counter the spin hard. Avoid flipping the student onto their back.

Freefall Control (...)

Inverted Recovery Technique

Only Student Inverted

If your student turned over onto his back, give him the chance to regain the correct body position. He should already have the knowledge on how to "right" his arch and he should be given a chance to do so. If the student is slow to react then you should help him. A student on his back who is unable to resume belly-to-earth flight position almost always means they are in a highly bent or folded body position. This extreme position drastically increases the student's fall rate; you must act very quickly to avoid losing the student. Once you have caught the student, you can then take the time to perform the inversion technique calmly.

Take a firm grip on the hip harness with one hand. Reach across the top of the body with the other hand and grab firmly onto the hip harness. Be careful not to grab or snag the cutaway or reserve handles. Firmly flip the student 180º to return them to a face-down attitude. Regain your grip on the student with a leg strap and shoulder hold until they settle down. You have now regained control.

If you are NOT facing the pilot chute while the student is on his back, reach across with your LEFT arm to grab the student on their hip harness nearest the pilot chute. When you have flipped the student over to their belly, your left hand will be correctly placed on the hip near the pilot chute.

If you ARE facing the pilot chute, reach across with your RIGHT arm instead. A simple way to remember this: Left hand goes to the pilot chute hip harness hold. This takes practice.

Student and Instructor Inverted

A poor exit can put you on your back with your student. Two choices are available to you:

- Keep a strong hold on the thigh and release the shoulder. Rotate (½ barrel roll) around to face the relative wind and use the inversion technique as described above to flip the student.

- Keep both grips (shoulder and hips) then bend your knees to your chest hard in order to make a back roll over top your pupil. This should automatically flip him as well.

On the Back SPIN

Simply combine the technique of counter-spin control and then inverted recovery to regain control of a student from a spiral on the back.

1. Stop the spin
2. Flip the student onto their stomach

Unusual Situations in Freefall

Unusual Situations in Freefall

Since you are already a Coach 2 and an Instructor, this section deals with unusual situations in freefall since your responses to them differ now that you wear the hat of a PFF Instructor.

Situation	Reaction
One instructor falls off the aircraft	The jump is canceled. The other PFF Instructor must ride down in the plane with the student.
Confused exit count	The instructor manages the timing of the exit.
Students froze in the door/on the step	At this stage it is not safe to go back inside the plane. Firmly verbalize the count “Ready-Set-Go” and manage the timing of the exit between the two instructors. See “Exiting 2:1” for more details.
"Tumble" on exit	The RSI drops grips and leaves after two rotations, the MSI stabilizes the pair, the RSI re-docks and the exercise begins again. See “Tumble" in 2:1” for more details.
Loss of one instructor in freefall	The instructor still attached takes charge of the jump and continues the exercise if the student is sufficiently stable. If the student is still unstable remaining instructor holds onto both grips until the other instructor is able to re-dock.
Loss of two instructors in freefall	This situation is quite unusual! Both instructors chase the student to re-dock (ideally in their respective positions, but in the end, just get a hold of the student no matter which side); but never go over top of the student. Both instructors will stop chasing the student by 3000'. The student must know that in such cases where there is no instructor, they are to open the main parachute immediately!
Student cannot find the pilot chute during practices or at the opening	Give him a little time and then take his wrist and guide his arm movement toward the pilot chute. Physically place his hand onto the pilot chute handle.
Student unstable from the exit and unable to re-establish stability	Open earlier than 6000 feet.
Bad body position (arch)	Analyze the student body position and signal the appropriate corrections. Regain physical control if necessary. See "Physical Control of the Student” for more details.
Fall Rate incompatible	If a misjudgment was made on the ground and the fall rate is incompatible between student and an instructor do not compromise safety and remain docked on the student for the rest of the jump. Do the same exercises while holding the side of the student.

Unusual Situations in Freefall (...)

Unusual Situations in Freefall (...)

Situation	Reaction
The student loses his goggles	Hold onto the student to provide stability while he put his goggles back on with two hands.
Student spinning	Regain control by using the technique of stop spin. See “Stopping Spin” above for more details.
Student on the back	Regain control by using the inversion technique, see “Inverted Recovery Technique” above for more details.
Student spinning on the back	Use the techniques of stop spin and inverted recovery combined.
RSI front, student oblivious to the altitude	RSI makes the signal to check altitude, and then wave-off and if the student still unaware of the altitude or what to do the MSI opens the student at 4000 feet.
Student grabs the pilot chute (from the pouch) @ wrong altitude	The MSI can grab and hold the pilot chute; both instructors are to remain docked to deployment.
Pilot chute around the hand or body part of the student	MSI tries to unravel the PC down to 5000'. If it does not MSI puts his hand on the bag/pin of the main harness and gives the sign to open the reserve to the RSI. The RSI pulls the Reserve handle. The two instructors remain on the student until the reserve opens.
Pilot chute in tow	The MSI and / or RSI keep holding the hip harness and pull the bridle to free the main closing pin. If this does not remove the PC, the MSI holds his hand on the bag/pin of the main canopy and gives the RSI the sign to open the reserve. The RSI pulls the Reserve handle. The two instructors remain on the student until the reserve opens.
Student does not react to the altitude or is unaware of the altitude	Make the signal to check altitude by 5000’, and then if necessary shake the student harness from 4500’ to 4000’. Open the student’s canopy if the student has not responded. Activation of the student’s parachute should be done above 3500’
Student is unable to pull the Pilot chute	Try to 2 times by MSI and if it still does not pull out, the RSI pulls the Reserve.
Student puts his hand on cutaway handle during the practice pulls	The MSI redirect his hand and make sure to take good check of the cutaway handle, see if it can be re-seated. Be careful during opening and protect the cutaway handle from being pulled further.
Student pulls the cutaway handle	The MSI grabs and throws the pilot chute immediately. The two instructors must keep a firm grip at the top and bottom of the harness to keep the student stable. If the RSL is not doing its job properly, the RSI pulls the reserve handle after the main canopy has released.

Module 6 Classroom Training

Training Program

PFF Tunnel Training Program

A Skydiving School Instructor (SSI) will provide comprehensive training in the classroom, similar to the training given to IAD/SL students, in the following cases:

- If your DZ has the option to incorporate PFF Tunnel training
- If your DZ provides the jump methods “tandem” instead of “IAD/SL” for the first jumps

The comprehensive training is necessary because students will not receive the theory of the parachute canopy control. In this case, training should include the following sections:

- Introduction
- Equipment and accessories
- Aircraft Procedures and Climb-out and Exit
- Body position in freefall
- Canopy control and check
- Landing
- Unusual situations and emergency procedures
- Review

Training Program (...)

PFF Standard Training Program

If your DZ the uses traditional PFF method, the training provided to your students will highlight the “Body position and freefall”. You will also need to edit several of the teaching sections in order to shape the information necessary to freefall.

Here are some topics that should be added:

Introduction
Explanation of the Solo Certificate

Equipment
Setting the altimeter and audible altimeter
Location of the Pilot chute
Function of the AAD
Checking equipment before jumping

Aircraft Procedures
If changing programs, different exit procedures
Mental rehearsal
Verbal Review

Equipment Check before Jumping
Positioning in the door
3-way exit
Practice emergency exits
Unusual circumstances relating to the release

Body Position and Freefall
To teach the full freefall activities

Sample Lesson Plan (Progressive Freefall)

Training Schedule

Introduction	20 minutes
Equipment and Accessories	30 minutes
Aircraft Procedures and Exit	15 minutes
Break	15 minutes
Body Position and Freefall	30 minutes
Canopy Control	30 minutes
Break	15 minutes
Unusual Situations and Emergency Procedures	30 minutes
Break	10 minutes
Review	30 minutes
Total Duration of Training	3 hours 45 minutes

Sample Lesson Plan (Progressive Freefall) (...)

Introduction - 20 minutes

At the end of this section the student will be able to:

- Describe the schedule of the course
- Name the prerequisites to attend training
- Name the prerequisites for the Solo Certificate
- Describe the restrictions
- Describe the DZ layout and CSPA
- Complete the logbook

Introduction of the Instructor and Student

Course rules:

- Have made a jump in the last 24 months (IAD, SL, Tandem)
- No scuba diving in the last 24 hours
- No alcohol or drug

Receiving and / or completed:

- CSPA membership form
- Liability Waiver and medical waiver
- Logbook
- Solo certificate form
- Goggles
- PFF Training Manual

The Solo Certificate

Explain briefly the prerequisites to achieve Solo certification

Presentation of the training schedule

Explain the rules and operation of the dropzone

- Hours of operation
- Scheduled breaks
- Operation of the “manifest”
- Qualifications of instructors: different ratings

The CSPA and its role

- Defines rules and recommendations
- Membership Cards
- Award of qualifications of coaches and instructors
- Provide liability insurance

Explain the logbook

Sample Lesson Plan (Progressive Freefall) (...)

Equipment and Accessories - 30 minutes

At the end of this section the student will be able to:

- Name the important parts of the equipment
- Define the function of equipment components
- Describe the sequence of deployment
- Explain the three possible “nuisances” during the opening
- Confirm the location and the proximity of the toggles
- Awareness DZ location, aerial photograph
- How to pick up the parachute

Teaching aids:

Accessories (see below), picture of a parachute, jumping equipment/accessories

Present accessories

Goggles, helmet, float vest, weight vest, jump suit, radio, audible and visual altimeter

Must know:
- Cutaway handle and function
- Reserve handle and function
- AAD and function

Show the reserve packing card and mention the repack cycle 180 days

Open the equipment in packing area, explanations and components

Must know:
- Toggles
- Parachute at ½ brakes to slow it down
- Risers
- Slider
- Pilot chute
- The reserve is almost identical except that it is a part of the harness and does not release

Explain:

- Line Twist : Do not release the brakes, “Untwist”, “Release brakes”
- Closed end cell : Lower the toggles to hips 2-3 sec
- Slider hang-up : Lower the toggles to hips 2-3 sec

Demonstration and practice of gather up the equipment after the jump

Collect all pieces of the equipment and return to the packing area as soon as possible

Sample Lesson Plan (Progressive Freefall) (...)

Equipment and Accessories - 30 minutes (...)

Questions:
- What are the handles that are used to steer the parachute called?
- Where are the steering toggles located?
- Having felt the opening shock, what do you do next?
- How do you turn left?
- Cannot move the steering toggles, how do you turn?
- What is the pilot chute? How many are there on the equipment?
- What is the AAD?

Presentation of Good Equipment Check

From top to bottom on the front and then up and down the back (mention RSL)
- Before gearing up
- Before boarding the aircraft
- Prior to the exit

Handles Check

(After the gear check, prior to boarding and before the exit)
- **3 straps**: chest and leg straps
- **Pilot chute**
- **Main Cutaway Handle**
- **Reserve Handle**

Questions :
- What is the name of the handle made of cloth? [main cutaway handle]
- What is it used for?
- When do I use it?
- What is the metal handle? [reserve handle]
- When should I use?
- When to do your handles check?
- Demonstrate the handles check?

Sample Lesson Plan (Progressive Freefall) (...)

Aircraft Procedures and Exit - 15 minutes

At the end of this section the student will be able to:

- Explain how to approach the aircraft safely
- Describe the seating positioning for the climb to altitude
- Describe how to fasten and unfasten his belt at 1500 feet
- Describe the importance of wearing a helmet during take-off
- Describe what to do during mental rehearsal
- Describe a relaxation technique
- Confirm the settings of his wrist-mount and audible altimeter
- Describe how to protect his equipment during the climb
- Check his equipment and handles before the exit
- Ask for a pin check prior to exit
- Perform the correct exit without hesitation
- Perform an emergency exit at the request of the instructor

Teaching aids:

Aircraft mock-up, seat belt, flight pattern of the aircraft, video of exit

Explain how to safely approach the aircraft

Demonstrate sitting in the plane

- Briefly explanation of the weight distribution
- Briefly explanation of the exit order

Explain how to fasten the seat belt and helmet

- Up to 1500 feet (you can exit after this altitude)
- Keep listening for audible altimeter

Demonstrate how to protect his equipment and review how to check it before exiting

- Insist on a good self-verification, handles check
- Insist that students requests a pin check by the instructor

Explain the expectations for mental rehearsal and relaxation

- Mental rehearsal at 4000 feet
- Verbal review at 8000 feet
- Demonstrate the technique of breathing and encourage to use

Show the exit

- Students perform up to perfect performance (3 perfect practices)
- Explain what to do if lose an instructor at the door: cancel the jump

Explain the emergency exits

- Follow the instructions of the instructor first
- Less than 1500 feet, wait and remain in the plane
- Demonstrate and practice the emergency exit - Reserve, between 1500 and 2500 feet
- Demonstrate and practice the emergency exit - Main, above 2500 feet

Questions :

- Who is responsible for checking the equipment before the exit?
- At what altitude can we remove our seatbelt? Why?
- At this stage of your progress, could you experience an emergency exit?
- Demonstrate the correct position for the start of freefall from the aircraft
- Demonstrate the steps for the exit

Sample Lesson Plan (Progressive Freefall) (...)

Body Position and Freefall - 15 minutes

At the end of this section the student will be able to:

- Describe the wind's effect on the movement of the aircraft and in freefall (drift)
- Demonstrate Body Position for exit from the aircraft and a stable freefall
- Perform a PFF Level 1 without any assistance
- Respond appropriately to freefall signals
- Describe his actions following the loss of one or both instructors
- Simulate the opening of his parachute

Teaching aids:

Table, wooden stickman (aka artist's doll, available from most art or craft shops), board, altimeter, practice equipment to handle the program manual

Demonstrate the correct position of freefall

- Introduce the movement of forward, backward, and upward to improve understanding
- Practice the basic position
- Emphasize the arch, the position of the arms and legs

Introduce the language of Freefall

- Sound: Initially
- Touch: Patting, shaking, moving of a limb
- Visual: Refer to the manual for hand signals

Demonstrate PFF Level 1

Repeat until the routine is known and can be demonstrated perfectly

- Stable arch body position
- Circle of awareness (Altitude, Main (Right) Side Instructor, Reserve (Left) Side Instructor)
- 3Xs opening practices
- Circle of awareness (HARM)
- STOP all activity at 6000 feet
- Opening parachute by 5000 feet
- Count Arch000-2000-3000-4000-5000-Check Parachute
- Canopy Identification (mention the pilot chute floating in the back) and Flight Control check

Practice until student performs three consecutive perfect sequences

3500 feet is the MINIMUM opening altitude

"Never sacrifice altitude for stability"

Describe what to do at the loss of an instructor

- One instructor missing = look at and follow the commands of the other
- 2 instructors missing! = PULL immediately, with no hesitation

Sample Lesson Plan (Progressive Freefall) (...)

Canopy Check and Flight Control - 30 minutes

At the end of this section the student will be able to:

- Perform a visual canopy check and a flight control test
- Locate the dropzone using ground references
- Recognize and respond to radio commands
- Check the wind strength and direction
- Continue as if there is no radio support
- Follow the landing pattern
- Demonstrate the proper landing technique (flare, PLF)
- Describe why one should land facing into the wind
- Recognize areas where turbulence can occur

Teaching aids:

Table, photo of a canopy, video, photo of landing area, mini sock, the actual landing area

Explain the mechanics of canopy flight

- Draw a wing / canopy
- Brief explanation of the Bernoulli principle
- Explain the canopy's full speed, half-brakes, full flare

Explain the canopy control check

Visual check:

- Rectangular cells, appear fully inflated
- Lines straight, no twist
- Slider down at least ½ way

Flight Test:

- Release the toggles (brakes)
  - >> Turn right 90 degrees
  - >> Turn left 90 degrees
  - >> Full brake or Flare (2 X's)
- Locate the landing area

Look for the specific landmarks

E.g. road, runway, lake, roof colour, etc.

>> Specify that they are responsible for checking radio before boarding the aircraft

Sample Lesson Plan (Progressive FreeFall) (...)

Canopy Check and Flight Control - 30 minutes (...)

Explain the flight direction of the canopy (shaping technique)

1. Explanation with white board and photo (e.g. use of radio control type)
2. Explanation with student participation in classroom
3. Explanation of the landing area with real landmarks, landing pattern, direction to face when landing; take this opportunity to say they must look at the wind direction before each takeoff

The flight pattern should include:

- Location of landing zone
- Penetration Test (at least 2 different times)
- Flying an “S” pattern toward the entry point to the landing circuit
- The Landing Circuit (downwind, base and final approach)
- Priority is given to lower canopy
- Avoid any sudden maneuvers; NO turns near the ground
- Direction of landing (facing into the wind)
- Flaring about 10-15 feet above the ground

Landing

- Follow the instructions of the GCI (you must know the exact same terms used by the GCI, such as “brake” or “flare”)
- Facing into the wind, follow the direction indicated by the wind sock and / or flags
- About 10-15 feet (3-4 meters) for flaring (foot on the ground - hands down all the way)
- After landing, if the winds are strong run around one side of the canopy and pull one toggle.

Landing off dropzone

- Aim for the center of a big field
- Check the wind direction (flags, smoke, anything near the ground)
- Fly facing the wind and slow by pulling the toggles 10-15 feet (3-4 meters) above the ground
- PLF

Conclude by mentioning areas of turbulence and areas to avoid

- Behind another parachute, downwind of large obstacles (trees, buildings, hills)

Questions :

- Describe your visual canopy check.
- Describe your flight control test.
- How can you see the wind direction?
- In what direction do we land?
- What do you do if the radio does not work?

Sample Lesson Plan (Progressive Freefall) (...)

Unusual Situations and Emergency Procedures - 30 minutes

At the end of this section the student will be able to:

- Recognize a problem following the visual canopy check and flight control test
- Understand and execute the emergency procedure
- Understand the steps: ASSESS - THINK - ACT
- Respond to a 2-out situation (2 canopies deployed)
- Respond to different landing hazardous

Teaching aids:

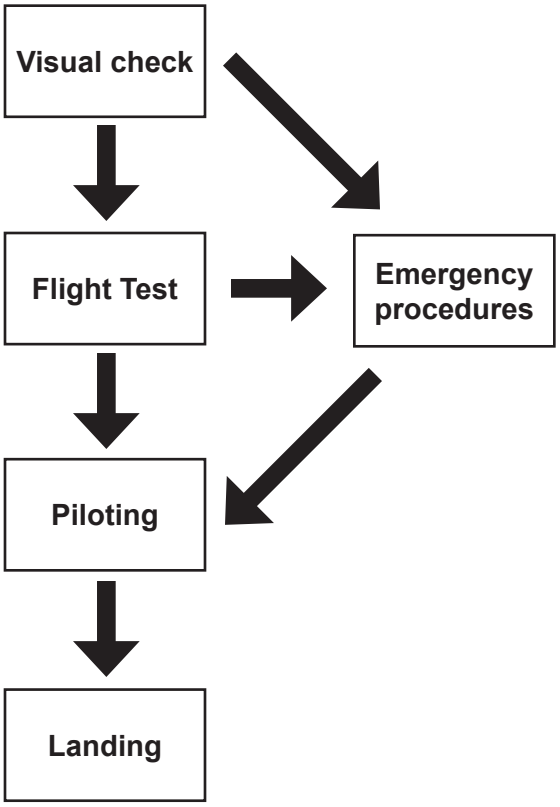
Video, photo of canopy, photos of malfunctions
Photographs of malfunctions from the “Reference Manual”, hanging harness, practice vest

Explain the basics first

COMMON SENSE!

EVALUATE THE AIRWORTHINESS OF THE CANOPY

1. Can it fly smoothly?
2. Can you land it safely?



ASSESS - THINK - ACT

The Emergency Procedure: Steps

1 - Look at the cutaway handle (fabric)
2 - Grip the cutaway handle
3 - Look at the reserve handle (metal)
4 - Grip the reserve handle
5 - Pull the cutaway handle
6 - Pull the reserve handle

The body should be arched,
and the legs bent back

PRACTICE - PRACTICE - PRACTICE with hanging harness / practice vest

Sample Lesson Plan (Progressive Freefall) (...)

Unusual Situations and Emergency Procedures - 30 minutes (...)

Cover each of the unusual situations

Slow-speed Malfunctions:

Broken line	Test airworthiness and emergency procedures if necessary
Broken steering line	Releasing both toggles and control with rear riser
Pilot chute tangled (front of canopy)	Test airworthiness and emergency procedures if necessary
Ripped canopy	Test airworthiness assessment and emergency procedures if necessary; a small hole is not a worry; a large gaping hole is a problem (blue sky)

High-speed Malfunctions:

Pilot chute stuck, cannot pull out	Try two times (2X's only) and then perform the emergency procedure
Pilot chute in tow	Perform the emergency procedures
Bag lock	Perform the emergency procedures
Horseshoe	Throw the Pilot chute, assess the airworthiness and emergency procedures if necessary
Streamer	Perform the emergency procedures
Slider hang-up	Test airworthiness and emergency procedures if necessary

2-Canopy Out:

Biplane: one canopy in front of the other	DO NOT CUTAWAY. Gently pulling on the rear riser of the FRONT canopy to steer. Hands off toggles completely. Land into the wind. Do not flare at the landing.
Side-by-side	If the canopies are stable, to keep them. Control the main canopy gently with the rear risers. Hands off toggles completely. Land into the wind. Do not flare on landing. If canopies separate, cutaway the main.
Down-plane	Emergency Procedures
Pinwheel: parachutes are facing opposite direction and spinning around each other	Emergency Procedures

Problems On Landing: Can be covered in the landing area

Electric power lines	Avoid at all costs. Turn parallel with and avoid the lines. Otherwise avoid touching 2 lines at the same time. Keep the legs together.
Forest, tree(s)	Legs together and slightly bent, cover to protect the face, neck and under arms, flare to 50%. Wait for help; remain in the tree until help arrives
Water landing	Avoid. If in the water, climb out of the harness; loosen straps well before landing
Buildings	Avoid. If not, flare 100% before contact and keep hold of toggles.

Sample Lesson Plan (Progressive Freefall) (...)

Course Review - 30 minutes

To Review

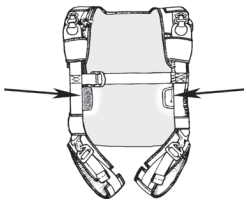
Review errors with the student to obtain a score of 100%

Sample Course Exam

Date :	Name :
	Date of Birth :
	Date of last jump :

Preparation and Equipment

1. On the harness, there are two handles on the chest. Indicate what material they are made from and what they are used for.

What is it made of?		What is it made of?
What is it used for?		What is it used for?

TRUE or FALSE?	TRUE	FALSE
2. It is my responsibility to make sure my equipment has been checked.		

3. I know how to test that the radio is working?

Aircraft Boarding and climb to altitude

TRUE or FALSE?	TRUE	FALSE
BEFORE BOARDING THE PLANE		
4. I have to observe the wind direction and plan for the landing pattern.		
5. I must make sure my equipment was checked.		
6. I must ask for a radio check.		
ON BOARD THE PLANE		
7. I must fasten my seatbelt before the aircraft departs.		
8. During the climb, I make a mental rehearsal of all parts of my jump.		

9. What are the 3 parts of the equipment check?

1.	**2.**	**3.**

10. When do you check your equipment (3 times)?

Sample Course Exam (...)

Exit and free fall

11. If I feel like I am tumbling in freefall, I must _____ to get stable on my belly.

12. In freefall, I am responsible for my altitude and checking my (device) _____.

13. The altitude to open my parachute is_____ feet above ground level.

14. After throwing the Pilot Chute, I must count as follows: _____

15. Draw a line from the definition to the picture.

SIGNALS

Check the altitude	
Extend the legs	
Arch or arch more	
Relax	
It's time to open	
Check arm position	

16. Describe the routine of the first freefall jump, from exit to opening:

_____

_____

_____

_____

_____

_____

Sample Course Exam (...)

Under canopy and landing

17. As soon as I feel the canopy has opened, I have to look _____.

18. What are the two tests to check your canopy? Describe them.

1st Test :	2nd Test :
a.	a.
b.	b.
c.	c.
	d.

TRUE or FALSE?	TRUE	FALSE
19. If I have twists on opening, I have to undo before release the brakes.		
20. Under canopy, I locate the dropzone and the landing area to orient myself.		
21. I have to perform a wind penetration test to assess the strength of the wind.		
22. The instructor who assists me on the radio has only a supervisory role, not control.		
23. I must land facing into the wind		
24. Just prior to landing, I must flare about 12 feet off the ground.		
25. There is no reason for landing in the water or electric lines.		

26. On landing, the instructor will tell me to FLARE. I must then (describe action):

_____

_____

_____

Emergency procedures and unusual situations

27. Once you step off the plane and into freefall, you find yourself alone without an instructor. WHAT DO YOU DO?

_____

28. The minimum altitude (called the floor) where you must open your parachute, no matter where you are in the air, is _____ feet above ground level.

Sample Course Exam (...)

Emergency procedures and unusual situations (...)

29. You feel the shock of opening, you look at your canopy, and it is not rectangular, the lines are tangled and the canopy is rotating rapidly. WHAT DO YOU DO?

30. Briefly, describe the best thing to do in these three situations:

Line Twists:
Slider hang-up:
Closed end cells:

31. Everything is perfect, you take the toggles, and you release the brakes, but the left toggle is not attached to the canopy any longer. WHAT DO YOU DO?

32. You are under canopy and your radio does not work ... WHAT DO YOU DO?

TRUE or FALSE?	TRUE	FALSE
33. The landing area will always be in front of you at parachute opening.		

If not, how will you find it?

34. You exited too far from the landing zone and you realize you cannot make it back. WHAT ARE YOU GOING TO DO?

Sample Course Exam (...)

35. Use the aerial diagram of the drop zone to draw the landing approach and landing circuit (right-hand pattern). Also, add the high altitudes, locate the “play” or “fun” zone (including wind penetration) and draw the windsock pointing in the right direction as the winds listed.

Please feel free to ask your instructor if any of your questions may remain unanswered.

Thank you and good jump!

Test corrected by : _____

Process of Converting a Foreign Certification to CSPA PFF Instructor

The conversion process is much more than recognizing the skills of a flight instructor. Indeed the PFF Instructor represents not only the instructor with the highest skill level of the CSPA instructor system but also with the best knowledge of the coaching and instructor system and CoP certification requirements.

Recognizing the skills from another country is one thing but to educate to the Canadian standards is quite another. The CWC (Coaching Working Committee) wants to facilitate the transition and integration of foreign instructors experience without creating a parallel system that would encourage Canadian skydivers to go across the border to take courses.

In short, the CSPA wants to make life easier for non-Canadian instructors, whose high experience can be a valuable addition to the DZs affiliated with the CSPA, without encouraging our members to go abroad to take the AFF training. We believe in the superior qualities of our system of instructor training and want the PFF Instructors to promote the competence and safety of our own members.

Mandatory for the Conversion Request

- Be a member of the CSPA
- Hold a minimum C Certificate of Proficiency from the CSPA
- Be an active jumper (minimum 50 jumps in past 12 months)
- Proof of equivalent FAI instructor rating
- Minimum 600 jumps and 6 hours of freefall time
- Provide proof of more than 50 AFF jumps (MSI, RSI or 1:1)
- Complete GCI module (GCI certified recommended)

Process of Converting a Foreign Certification to CSPA PFF Instructor (...)

Conversion Process

- Obtain manual from CSPA PFF Instructor
- Make an appointment with a CSPA Course Facilitator (facilitator must also be a certified PFF Instructor)
- Complete 2 evaluation jumps (Jumps # 5 and 6 per PFFI course)
- Pass the evaluation jump criteria with a score of at least 80%
- Pass the PFFI course exam with a score of at least 80%

"Challenge" Jumps

- PFF Jump Level No. 5
- PFF Jump Level No. 6

The PFF Evaluator will check the challenger's skills in these two jumps in the following areas:

- Student preparation and briefing
- Supervision and teaching ability
- Aircraft Supervision
- Ability to control the student climb out, exit and launch
- Skill and ability to fly in close proximity to the student at exit
- Freefall Skill
- Communication skills in freefall (signals usage)
- Ability to control a "tumble"
- Ability to control instability on the stomach
- Ability to stop a spin
- Ability to perform inverted recovery
- Supervision of the descent under canopy and landing
- Debriefing
- Setting appropriate goals for the next jump

Privileges

- Obtain certification as PFF Instructor
- Administer the PFF student training program
- Perform 2:1 and 1:1 PFF jump levels
- Sign logbook for PFF Students (no other signing authority permitted)

Unsuccessful "Challenge"

Following a failure in either of the evaluation areas, certification of a temporary PFF Instructor will be refused. The evaluator should then directs the candidate to the next PFF Course Facilitator and request the challenger takes the full PFF training course from the beginning.. The candidate will be responsible for obtaining all pre-training requirements.

The candidate can appeal the outcome of the unsuccessful evaluation in a letter to the Chairman of CWC.