

LASKUVARJOTOIMIKUNTA

STUDENT GUIDE FIRST JUMP COURSE and ELEMENTARY TRAINING

**FINNISH AERONAUTICAL ASSOCIATION
PARACHUTING COMMITTEE
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Content

Welcome to the Sky.....	8
Finnish Aeronautical Association.....	8
Parachuting Committee.....	9
Insurance Coverage	9
Health Requirements.....	9
Parachuting Training.....	10
First-jump course (Basic Course, <i>Alkeiskurssi</i>) – The First Step.....	10
Elementary training (Toward the Student’s Basic training phase as an elementary training student) ..	10
Basic training (Toward the Student’s Advanced training phase as a basic training student)	10
Advanced training (Toward an A-license as an advanced training student)	10
A-licence	11
1 Summary: Elementary Training	12
1.1 Jumps, AFF	12
1.2 Jumps, SL	12
1.3 Other Training, AFF.....	12
1.4 Other Training, SL	12
1.5 Time Limits for Currency: AFF.....	12
1.6 Time Limits for Currency: SL	12
2 Parachuting Gear and Equipment	13
2.1 Rig	13
2.1.1 Main Parachute	13
2.1.2 Reserve Parachute.....	14
2.2 Container-harness System.....	14
2.3 Accessories	16
2.4 Other Equipment Used in Parachuting.....	17
2.5 Handling the Gear.....	17
2.6 Check of Threes	18
3 Jump Procedure.....	19
3.1 Getting Ready for Your First Jump.....	19
3.1.1 Operation in the Aircraft	19
3.2 Exit Cessna 206, SL.....	19
3.3 Exit Strut Aircraft, SL.....	21
3.4 Exit, AFF	22
3.5 The Basics of Freefalling	23

3.5.1 Using an Altimeter During Freefall	24
3.5.2 Using an Altimeter	24
3.5.3 Errors	25
3.6. Opening the Parachute.....	25
3.6.1 Order of Importance When Opening a Parachute	25
3.6.2 Opening Systems	25
3.6.3 Dangerous situations.....	26
3.7 Parachute Deployment, Checking and Clearing	27
3.8 Steering.....	28
3.8.1 Flight Modes	28
3.8.2 Air Speed and Ground Speed	29
3.8.3 Turbulence.....	29
3.8.4 Turns.....	30
3.8.5 Steering to the Landing Area.....	31
3.8.6 Landing Pattern	32
3.8.7 Landing priorities.....	33
3.8.8 Flare and Touch Down.....	33
3.8.9 Parachute Deflation.....	35
3.8.10 Radio Commands.....	35
4 Flying or Not Flying.....	36
4.1 Flying – Fully Deployed	36
4.2 Flying – Clear it!	37
4.3 Not Flying.....	39
4.4 Using the Reserve	40
5 Emergencies in Parachuting	44
5.1 Emergencies in the Aircraft and in the Exit	44
5.1.1 Opening of the Container in the Aircraft.....	44
5.1.2 Emergency Jump.....	44
5.1.3 Emergency Landing.....	44
5.1.4 Hanging from the Aircraft.....	45
5.2 Getting Entangled with Suspension Lines	45
5.3 Pilot Chute Emergencies.....	45
5.4 Emergencies under the Parachute	46
5.4.1 Two Open Parachutes.....	46
5.4.2 Parachute Collisions.....	48
5.5 Landing on Various Sites.....	48

5.5.1 Landing into Water	48
5.5.2 Landing on a Tree or into a Forest.....	49
5.5.3 Landing on Power Lines.....	49
5.5.4 Landing on a Roof.....	49
5.5.5 Hitting a Fixed Obstacle.....	49
6 AFF First-jump Course Accomplishments.....	50
6.1 Freefalling at AFF jumps	50
6.1.1 Circle-of-awareness	50
6.1.2 Practice Deployment	50
6.1.3 Parachute deployment	51
6.2 Level 1 – Getting Used to Freefalling.....	51
6.2.1 The Students Actions.....	51
6.2.2 Getting Ready for Your First Jump.....	51
6.2.3 Learning Objectives	52
6.2.4 Aircraft procedures.....	52
6.2.5 Dive Plan	52
6.3 Level 2 -Controlling Your Position	52
6.3.1 Student’s Actions.....	52
6.3.2 Learning Objectives	52
6.3.3 Aircraft Procedures.....	53
6.3.4 Dive Plan	53
6.4 Level 3 – Stable Freefall Position.....	53
6.4.1 Student’s Actions.....	53
6.4.2 Learning Objectives	54
6.4.3 Aircraft Procedures.....	54
6.4.4 Steering and Landing	54
6.4.5 Dive Plan	54
6.5 Level 4 – Turns 90°.....	54
6.5.1 Student’s Actions.....	54
6.5.2 Learning Objectives	54
6.5.3 Aircraft Procedures.....	55
6.5.4 Steering and Landing	55
6.5.5 Dive Plan	55
6.6 Level 5 – Turns 360°.....	55
6.6.1 Student’s Actions.....	55
6.6.2 Learning Objectives	55

6.6.3 Aircraft Procedures.....	55
6.6.4 Steering and Landing	55
6.6.5 Dive Plan	56
6.7 Level 6 – Solo Exit	56
6.7.1 Student’s Actions.....	56
6.7.2 Learning Objectives	56
6.7.3 Aircraft Procedures.....	56
6.7.4 Steering and Landing	56
6.7.5 Jump progress.....	57
6.8 Level 7 – Half Series.....	57
6.8.1 Student’s Actions.....	57
6.8.2 Learning Objectives	57
6.8.3 Aircraft Procedures.....	57
6.8.4 Steering and Landing	57
6.8.5 Dive Plan	58
6.9 Level 8 – 15” Short Free.....	58
6.9.1 Student’s Actions.....	58
6.9.2 Learning Objectives	58
6.9.3 Aircraft Procedures.....	58
6.9.4 Steering and Landing	58
6.9.5 Dive Plan	58
7 SL First-jump Course	59
7.1 Automatic deployment (Static Line).....	59
7.1.1 Students Actions.....	59
7.1.2 Getting Ready for Your First Jump.....	59
7.1.3 Learning Objectives	59
7.1.4 Aircraft Procedures.....	60
7.1.5 Dive Plan	60
7.1.6 Exit / Cessna 206.....	60
7.1.7 Exit / Cessna 182 (strut).....	61
7.2 Practice Deployment	61
7.2.1 Learning Objectives	61
7.2.2 Aircraft Procedures.....	62
7.2.3 Dive Plan	62
7.2.4 Emergency Situations	63
7.2.5 A Practice.....	63

- 7.3 Self-deployment 3” 63
 - 7.3.1 Learning Objectives 63
 - 7.3.2 Aircraft Procedures..... 64
 - 7.3.3 Dive Plan 64
- 7.4 Self-deployment 5” 64
 - 7.4.1 Learning Objectives 64
 - 7.4.2 Aircraft Procedures..... 64
 - 7.4.3 Dive Plan 65
- 7.5 10” 65
 - 7.5.1 Learning Objectives 65
 - 7.5.2 Aircraft Procedures..... 66
 - 7.5.3 Dive Plan 66
- 10.8 Emergencies [Very important translation from Part II, Basic Training] 67

Welcome to the Sky

Parachuting or skydiving as a hobby is not the crazy activity that it may generally be considered to be. Naturally, there are risks involved in parachuting, as well as in any high-speed sport, but skydiving is much safer than people generally believe.

Parachuting is governed by law, regulations and directions by the Finnish Aeronautical Association, prepared in cooperation with experienced jumpers along the years. When used in the right way, parachuting gear is reliable indeed. Sport skydiving today is risk control at its best.

Any problems that occur are usually caused by mistakes made by the parachutists themselves. Our training program, supervised and approved by the Finnish Aeronautical Association, is the same throughout the country. All our instructors are either jumpmasters, coaches or experienced skydivers.

Most of the skydiving activity in Finland, including training, is based on voluntary club work. There are also commercial companies working with skydiving.

Our training program covers all stages of parachuting, preparing you to jump safely and still have fun! You must master all matters covered in the course to make a successful jump.

Each lesson and practice is important for your own safety. Therefore, if you cannot attend all parts of the course, you should talk to your instructor for supplementary training. There are also exercises that you can practice further at home, to focus even better and contemplate any unclear matters. Mental practice, including going through the various stages of the jump in one's mind, is useful.

Do not hesitate to ask whenever anything is unclear to you; you must understand everything. The topics in the course are new to everyone and there are no foolish questions. The skydiving vocabulary includes many slang words and expressions that instructors unfortunately use sometimes. Please ask if there is anything you do not quite understand!

You may have long dreamt about skydiving or maybe the idea just recently occurred to you. Nevertheless, you have now decided to start a hobby that will hopefully bring you many rewarding moments in the sky and on the ground. Whether you just want to try this sport for a couple of jumps or decide to make it a long-time hobby, we promise you that your first jump will be an experience you will never forget!

Finnish Aeronautical Association

Finnish Aeronautical Association – FAA (*Suomen Ilmailuliitto ry – SIL*) is the central organization of Finnish amateur aviation associations, founded in 1919. It has over 200 (2017) member associations, including fourteen associations that are mainly involved in parachuting. All parachuting associations (clubs) involved in training operate under the training permit held by the Finnish Aeronautical Association.

Aviation is supervised by aviation authorities. The Finnish Aeronautical Association gives its members guidelines and acts as an interest group towards authorities (Finnish Transport and Communications Agency – *Traficom*) by, for example:

- Assisting Traficom as an expert in parachuting.
- Preparing the parachuting training programs and making them known to their members.
- Supervising the training programs of member associations.
- Preparing parachuting statistics.
- Compiling and analyzing accident and emergency reports.
- Participating in the preparation of parachuting regulations and instructions.
- Granting FAA (SIL)-parachuting licenses.

The Finnish Aeronautical Association has published *Ilmailu* (Aviation Monthly) magazine since 1938. The magazine comes out eight times a year and covers the Finnish Aeronautical Association's own amateur aviation events, both commercial and military aviation, as well as matters related to aviation safety.

The day-to-day action is coordinated by the Association's office at the Helsinki-Malmi Airport. Further information is provided on the Finnish Aeronautical Association's Web site at www.ilmailu.fi.

Parachuting Committee

Parachuting Committee, the Finnish Aeronautical Association's expert body concerning parachuting, is made up of persons elected to their position of trust. The members are skydivers themselves who want to promote skydiving as a hobby and skydiving's needs in Finland.

Parachuting committee takes care of matters related to parachuting equipment, competition, training, safety and the flying of parachuting aircrafts. You can find the homepage of the committee at www.laskuvarjotoimikunta.fi.

Insurance Coverage

A number of accidents occur in parachuting every year. A typical injury is ankle sprain or fracture caused by poor landing.

There have been 27 (2017) fatalities in Finland since 1962. The total number of jumps from 1962 to 2017 is approximately 1,820,000. About 40,000 jumps are made in Finland annually.

Parachutists always jump at their own risk. The Club carries a liability insurance to cover damages caused to a third party. This liability insurance indemnifies any damages incurred to a third party only if the Club is at fault. If the student is at fault, causing damage to himself, herself or someone else, the student is personally liable for such damage. By joining Finnish Aeronautical Association, you will get an insurance that covers damages caused to a third party and accidental injuries.

Ordinary free-time insurance policies usually do not cover any accidents or damages that occur in parachuting, since parachuting is included in the so-called extreme sports. If you want your insurance to cover injuries or damages incurred in parachuting, you should obtain an additional coverage to supplement your policy.

You can take out additional insurance from your insurance company or use the Finnish Aeronautical Association's insurance benefits. For further information about this insurance policy and indemnity, see the Dear Student Parachutist brochure. Further information is also available from your instructors and the Finnish Aeronautical Associations phone number (09) 350 9340. We recommend that you take out an insurance for parachuting.

Health Requirements

Parachuting is a sport that requires physical and mental fitness and normal health. Parachuting is not allowed if you have illnesses that cause even momentary unconsciousness or loss of capacity or require continuous medication.

During the course, you will fill and sign the parachutist's health affirmation. Jumpers older than 60 must also have a medical certificate from a doctor. The training organization may request a medical certificate from any of its members as proof of their health at any time.

Parachuting Training

First-jump course (Basic Course, *Alkeiskurssi*) – The First Step

First-jump course prepares you for a safe first jump and gives you a foundation for beginner, basic and secondary courses. The intense training program requires you to be active and to recap already learnt things. Listen, ask and clarify.

You can take the First-jump course either as an AFF-course (accelerated freefall, *NOVA* in Finnish) or as a SL-course (self-deployment, *PL* in Finnish). Both options are covered and analyzed in this guide. The options have mostly the same training programs.

The goals of the first-jump course include learning how to: act in the aircraft, perform an exit, do a controlled self-supervised freefall (AFF), open the parachute, steer yourself to the landing area and perform a safe landing. The course also focuses on learning how to act in an emergency and how to do the reserve procedure.

Your first jump is either an automatic canopy deployment jump (Static Line, SL) from 1000 meters or a self-deployment jump (AFF) from 2700–4000 meters. Before your jump, you must pass practical exams related to exit, parachute landing fall and using the reserve procedure in addition to the written theory exam. After this, you will be ready to jump under a jumpmaster's supervision.

Jumpmasters will supervise and evaluate all your performances and record them in your skylog, either accepting or failing your performance. The latter alternative means a new attempt before taking the next step. You will need personal training from a jumpmaster before each new performance. In this guide is the material, which you will be using during the elementary, basic and advanced training. You can find a digital version of this guide at www.laskuvarjotoimikunta.ilmailuliitto.fi/materiaalipankki/koulutus-ja-turvallisuus.

Elementary training (Toward the Student's Basic training phase as an elementary training student)

The goal of elementary training is to learn how to open the parachute yourself (in SL and AFF), and in addition in the AFF learning the basic moves used during freefall. At the end of elementary training is a theory exam and a recap of emergency and reserve procedures.

Basic training (Toward the Student's Advanced training phase as a basic training student)

At this phase you will learn a stable freefall position together with different movements and sequences. The program includes turns, flips and back flying. After this, you will take a theoretical exam and a gear-check test. You will also recap emergency and reserve procedure, after which you will transfer to the secondary course. In addition to a jumpmaster a coach (in Finnish *vapaapudotuskouluttaja*, *VPK*) can now train you as well.

Advanced training (Toward an A-license as an advanced training student)

At this phase you will be an independent student who no longer needs a jumpmaster or a coach in the aircraft. You will learn different parachuting disciplines such as formation skydiving and freestyle. You will also focus on accuracy landings and you will get a chance to use different kinds of parachuting gear.

Your most important goal is to learn the basics of a safe group jump. At the end you will take a theory exam and a practical exam on packing and checking the student main parachute and recap emergency and reserve procedure.

The whole phase as a student ends (in addition to the exams) to a test jump, in which you prove your ability to perform the basic skydiving skills.

A-licence

After a theoretical exam and a packing check test, you may apply for an A-license from the Finnish Aeronautical Association.

A skydiver with an A-license has the rights to skydive independently within the limits of the aviation laws and regulations, the Finnish Aeronautical Association's instructions and the Club's regulations. In addition, the license given by FAA makes jumping easier outside of Finland.

1 Summary: Elementary Training

After the First Jump Course a student stays current for one year. If the currency is not valid any more, the student needs to renew the exam and practical training before jumping. The reserve use demonstration stays current for two months. On each jump the student needs to reach the required learning targets to get approval from instructor.

1.1 Jumps, AFF

- Level 1 – Getting Used to Freefalling ([6.2 p. 51](#)).
- Level 2 – Controlling Your Position ([6.3 p. 52](#)).
- Level 3 – Stable Freefall ([6.4 p. 53](#)).
- Level 4 – 90° turns ([6.5 p. 54](#)).
- Level 5 – 360° turns ([6.6 p. 55](#)).
- Level 6 – Solo exit ([6.7 p. 56](#)).
- Level 7 – Half series ([6.8 p. 57](#)).
- Level 8 – 15'' Short Free ('' = seconds) ([6.9 p. 58](#)).

1.2 Jumps, SL

- 3 static line jumps ([7.1 p. 59](#)).
- 3 practice pull jumps ([7.2 p. 61](#)).
- 3'' self-deployment jumps ('' = seconds) ([7.3 p. 63](#)).
- 5'' self-deployment jumps ([7.4 p. 64](#)).
- 10'' self-deployment jumps ([7.5 p. 65](#)).

1.3 Other Training, AFF

- A written exam about Basic training, excluding chapter 15 regarding SL elementary course jumps.

1.4 Other Training, SL

- A written exam about Basic training, excluding chapter 14 regarding AFF elementary course jumps.

1.5 Time Limits for Currency: AFF

- If the student has a break of 30 days or more between jumps, he/she must renew the previous jump. At levels 5–7, the student can renew another prior level (excluding levels 1 and 2) with the instructor's permission. Level 8 must be done within 14 days of doing level 7. Otherwise, level 7 must be renewed.

1.6 Time Limits for Currency: SL

- If the student has a break of 30 days or more between jumps, he/she must jump a "totuttelusoritus" ("a recurrency jump"):
 - A SL or a practice pull jump → SL.
 - 3'', 5'' or 10'' → a practice pull jump.
 - SL-jumpmaster can also assign a different jump/jumps.
- The first self-deployment jump must be done on the same or next day of the last practice pull was approved.

2 Parachuting Gear and Equipment

2.1 Rig

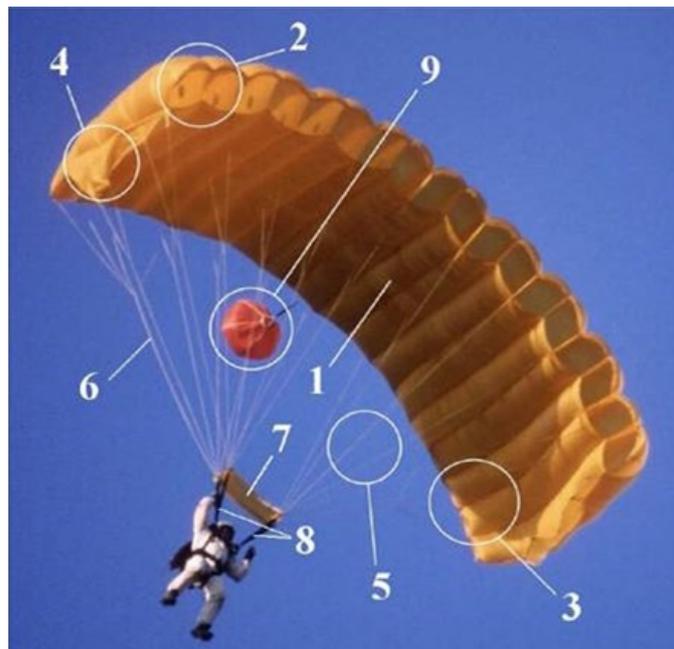
A rig includes a container-harness combination and two parachutes: a main parachute and a reserve parachute. Both are rectangular ram-air canopies. The ram-air canopy is shaped like a wing, with a glide ratio of 3:1. In other words, it glides three meters forward while it sinks one meter.



2.1. Wings container-harness system on a parachutist.

2.1.1 Main Parachute

The main parachute, which consists of a canopy, lines and a slider, is attached to the harness through risers with a three-ring release. The canopy consists of cells, each with a closed tail end. The suspension lines of various lengths give the canopy an angle of incidence where the leading edge (nose) is slightly lower than the trailing edge (tail). The ram-air canopy creates lifting power in the same way as the wing of an airplane.



2.2. The components of the main parachute: 1. Canopy 2. Cell 3. Trailing edge (tail) 4. Stabilizer 5. Suspension lines 6. Steering (control) lines 7. Slider 8. Risers 9. Pilot chute.

2.1.2 Reserve Parachute

A reserve parachute is like a main parachute by its structure and function. When using a reserve parachute the place for landing might be somewhere else than at the landing area. That is why the parachutist must adopt a good parachute landing fall position for the touchdown and make a parachuting landing fall if necessary (This is practiced before the jump).

2.2 Container-harness System



2.3. 1. Buckle 2. Main parachute release handle 3. Reserve ripcord handle 4. Chest strap
5. Lock for the RSL 6. Hook knife (location may vary) 7. Three-ring release. 8. AAD 9. Leg strap.



2.4. 10. Main parachute opening handle (HD) 11. Main parachute container
 12. Reserve parachute container 13. Cover flap of the main parachute's closing pin/cable
 14. Main parachute opening handle for jumpmaster (AFF-handle).



2.5. 10. Static line 11. Main parachute container 12. Reserve parachute container
 13. Cover flap of the main parachute's closing pin/cable.

2.3 Accessories

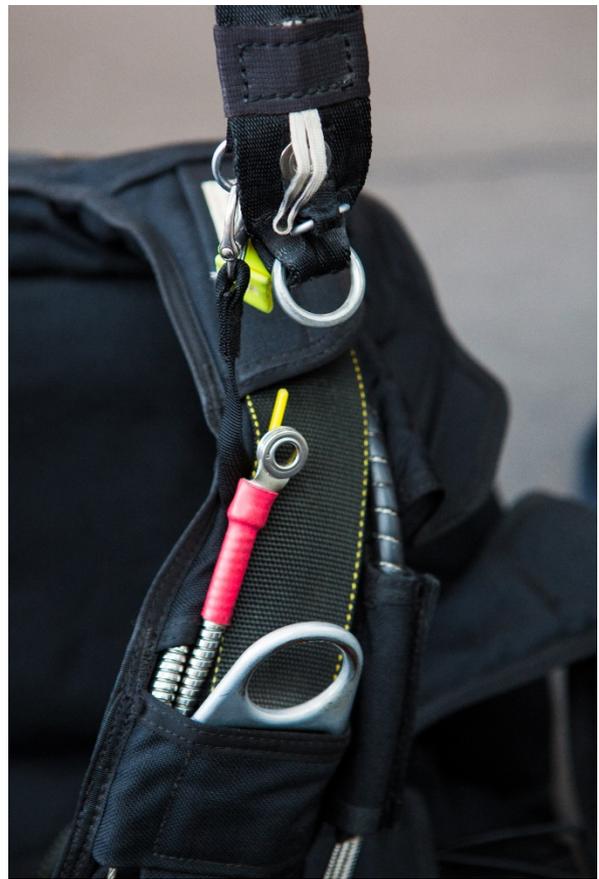
In addition to the main and reserve canopy, the rig includes a few accessories to increase the jumper's safety. The purpose of these devices is to ensure the deployment of the reserve canopy.

The purpose of the reserve static line is to secure the opening of the reserve parachute after the main parachute is released from the harness. The system connects the main riser to the reserve deployment system. It is possible for the parachutist to release the reserve static line by opening the quick-release lock attached to the main riser. It should be released, for example, when landing in water ([5.5.1 p. 48](#)).

When a parachutist releases a main parachute ([4.4 p. 40](#)) and the risers are detached from their three-ring release, the RELEASED main parachute tightens the reserve static line and opens the reserve. However, the reserve static line is simply a backup. It will not open the reserve parachute if the main parachute has not been opened. The jumper must ALWAYS open the reserve parachute himself/herself by pulling the reserve ripcord handle!



2.6. Three-ring release.



2.7. Three-ring release system is open. Main riser pulls the reserve static line.

Another accessory for the reserve deployment is an automatic activation device (AAD). The two alternative devices are either electronic (*Cypres* and *Vigil*) or mechanic (*FXC*). The purpose of these devices is to activate the reserve deployment at a pre-set altitude (300 meters) if the jumper falls too fast and at too low an altitude.

In case of students, only the jumpmaster has the right to set the automatic activation device. The FXC control unit includes a JUMP/OFF knob, which must always be on JUMP. There are two occasions when you should turn the knob OFF yourself:

- At the jumpmaster's command when landing in the aircraft.
- When landing into water ([5.5.1 p. 48](#)).



2.8. *Cypres automatic activation device for the reserve parachute.*

2.4 Other Equipment Used in Parachuting

- Rigid helmet: With a fastening strap attached outside the helmet.
- Radio receiver: Used at least during the first three jumps.
- Goggles: Protects the eyes from foreign objects and wind.
- Jumpsuit: Must not include any extensions or pockets that can stick to something or the jumper might grab by mistake. A sweat suit or other relaxed clothing (a layer that is appropriate for the weather and does not get in the way of moving) is recommended under the jumpsuit.
- Gloves: Compulsory for students. Must be warm but not too thick or slippery.
- Shoes: Must be suitable for parachuting. (No open hooks for shoelaces etc.)
- Altimeter: Set at zero on the ground. Attached to the chest strap or your wrist.
- Hook knife: To cut tangled lines or lines going over the canopy in collisions and reserve malfunctions.
- Life vest: If the instructor thinks there is an obvious drowning risk in the area.

When jumping, you are not allowed to carry any unnecessary articles, (such as keys, pens, pencils or phones). When you are going to jump, you must also bring along your logbook.

2.5 Handling the Gear

Do not leave in sunshine or subject to moisture or dirt. Do not lift from the risers, ripcord handles or ripcord housings, instead lift from the shoulder straps. Do not toss the rig, drag it around on the ground or use it as a seat. Do not smoke after you have put on a harness.

Since canopy fabric is flammable, no smoking is allowed near the parachutes.

A student may pack the main canopy under the supervision of a licensed skydiver. A logbook is kept on the packing of the main parachute used by a student. A reserve may only be packed by a person who has completed special training for that. Do not forget to always return the gear and equipment to their own place after the jump.

2.6 Check of Threes

At the basic course phase, the student is taught how to do a gear check. However, at the self-deployment phase a gear check is summarized to the “Check of threes”:

1. Check that there are three buckles attached:
 - the left leg strap
 - the right leg strap
 - the chest strap.
2. Check that there are three handles and that all of them are attached:
 - the main parachute opening handle
 - the main parachute cutaway pad
 - the reserve parachute opening handle.
3. Check that the three-ring release and RSL (Reserve Static Line) are attached and correct.

3 Jump Procedure

3.1 Getting Ready for Your First Jump

The jump procedure does not begin when you exit the aircraft in the air. To make sure everything goes well, it is important that you take care of the preparations. You should make the decision to jump as early as the previous day to mentally prepare for the coming performance. Adequate sleep at night and nutrition are also important. It is difficult to focus if you are tired and/or hungry.

Before registering for a jump (writing the name and required information on the manifest list), gather the necessary gear and equipment and notify the instructor that you are intending to jump. You should try the rig on to be able to make any necessary adjustments in time before going to the aircraft. Practice your performance either independently or with the jumpmaster.

If possible, follow the steering patterns of the previous jump load to find out the effect of the upper and lower winds on steering and landing.

Before going to the aircraft, the jumpmaster will check that you are wearing the rig and other equipment correctly. After the check you are not allowed to adjust the gear without the jumpmaster's permission! In addition, before going to the aircraft you will be shown the landing pattern based on the prevailing wind conditions. Students are allowed to go to the aircraft only under the jumpmaster's supervision. The aircraft is always approached from the back.

3.1.1 Operation in the Aircraft

The aircraft is usually boarded in the reversed exit order, which means that the first person to board will be the last one to jump (except for the jumpmaster). Different clubs have their own directions which you will be taught about. Always follow your jumpmasters' directions about boarding the aircraft and moving inside it. The aircraft's center of gravity should stay at a prescribed area for the aviation safety. If the center of gravity differs from the directions, the aircraft can stall and stop flying.

Whenever moving, avoid any extensions of the aircraft sticking to your gear or equipment. You should particularly protect the parachute ripcord handles also when other people are moving. If you get stuck somewhere, do not pull anything by force. Instead, let the jumpmaster know about the situation. Avoid any unnecessary movement. Keep your possible seatbelt fastened until the jumpmaster unbuckles it or gives you permission to unbuckle it. If you observe anything unusual in your own or someone else's gear during the flight, let the jumpmaster know about it immediately.

Focus on your own jump. Be considerate in the aircraft, do not disturb the concentration of other skydivers. The pilot is the captain of the aircraft, but the jumpmaster is your captain. When approaching the exit point, the aircraft is flying a jump-run that has been determined in accordance with the wind conditions. Well before the exit point the jumpmaster checks the gear of the students.

3.2 Exit Cessna 206, SL

At the jumpmaster's "**OVELLE!** (to the **DOOR!**)" command, you must move to the door and take the exit position. At the "**MENE! (GO!)**" command, you must push yourself away from the aircraft, arch well in a delta position and begin to count.

Your chest should remain directly in the aircraft's flight direction the whole time.



3.1. *A parachutist is moving to the door on exit position.*

During the exit the ground tends to catch the jumper's eye. If you look down to the ground instead of looking at the aircraft, you are likely to arch in the wrong way. The human body usually turns in the looking direction. Therefore, when you look up toward the aircraft during the exit you are arching correctly. Arching begins from the hip (including back and neck).

Arching is the main factor in the exit. In the delta position spread your arms 45 degrees away from your sides and keep your shoulders back. Spread your legs so that the width between your feet is about the same as the width of your shoulders. Your legs should be only slightly bent.

It is also important to learn to count from the very beginning, since it is practically the only way of maintaining a sense of time at this stage of the parachuting career. You should count by shouting out loud by thousands: "One-thousand, two-thousand... five-thousand." In your exit practices you should start learning the right rhythm: do not shout just numbers but seconds. In the air a few seconds may feel like a very long time.



3.2. *The parachutist has jumped off the aircraft.*

The main factors of a successful exit are:

- Taking a good and symmetrical exit position at the door (look up toward the aircraft).
- Pushing away from the aircraft hard enough and keeping your chest in the flight direction.
- A good and symmetric delta position and a strong arch, looking up toward the aircraft.

3.3 Exit Strut Aircraft, SL

At the jumpmasters “**OVELLE!** (to the **DOOR!**)” command, you must move to the door. At the “**MENE! (GO!)**” command, you must walk out (low, not hitting your rig to the door) and hang on the strut, let go, keep the good arch and a X-position and begin to count. Your chest should remain directly in the aircraft’s flight direction the whole time.



3.3. *A parachutist hanging on a strut with a good exit position.*

During the exit the ground tends to catch the jumper’s eye. If you look down to the ground instead of looking at the aircraft, you are likely to arch in the wrong way. The human body usually turns in the looking direction. Therefore, when you look up toward the aircraft during the exit, you are arching correctly. Arching begins from the hip (including back and neck).

If you lose your arch for some reason, you can fix the situation easily: keep arching.

Arching is therefore the main factor in the exit. In the X-position your arms are spread over your head while your shoulders stay back. Spread your legs so that the distance between your feet is about the same in width as the width of your shoulders. Your legs should be only slightly bent.

It is also important to learn to count from the very beginning, since it is practically the only way of maintaining a sense of time at this stage of the parachuting career. You should count by shouting out loud thousands: “One-thousand, two-thousand... five-thousand.” In your exit practices, you should start learning the right rhythm: do not shout just numbers but seconds. In the air, a few seconds may feel like a very long time.



3.4. *The parachutist has let go off the aircraft.*

The main factors of a successful exit are:

- Lower your legs to the airflow one by one, do not jump.
- Hold on to the strut with your arms shoulder width apart. Maintain the symmetrical exit position (X-position, strong arch, look up toward the aircraft).
- Let go with both of your hands at the same time and keep your chest in the flight direction.
- Maintain the symmetrical X-position and the strong arch and keep looking up toward the aircraft.

Problems:

- A backflip caused by bent legs.
- A negative arch turning the position upside down.
- Jumping off the step causing the jumper to lose grip and fall off.
- Pushing yourself off the strut with your hands and turning upside down.

3.4 Exit, AFF

Jumpmaster commands: **“SIIRRY/YLÖS (MOVE/UP)”**

At the *Siirry* (Move) or *Ylös* (Up) command you must get ready to move to the door. The jumpmaster commands: **“OVELLE! (to the DOOR!)”**

At the **“OVELLE! (DOOR!)”** command a jumpmaster will help you when you move to the door (be careful to not hit your rig at the door) and take the exit position. Both jumpmasters will hold on to you. If needed the jumpmaster who is inside gives you extra commands.

When you are ready look at the jumpmaster inside the aircraft and perform the exit check. This means keeping your eyes on the jumpmaster and saying with a loud noise:

“TARKISTUS SISÄÄN (CHECK INSIDE)”

This is how you ensure the jumpmaster who is inside the aircraft is ready. When the master is ready he/she will nod, and you can continue. Keep your eyes on the jumpmaster until they give you a signal by either shaking their head or by nodding.

Next, make sure the jumpmaster who is outside is ready. Move your eyes over your shoulder to the jumpmaster outside the aircraft and say with a loud noise:

“TARKISTUS ULOS (CHECK OUTSIDE)”

This is how you ensure the jumpmaster who is outside the aircraft is ready. When the master is ready he/she will nod, and you can continue. Keep your eyes on the jumpmaster until they give you a signal by either shaking their head or by nodding.

After you have checked that the jumpmasters are ready, you can begin the rhythmical exit counting out loud. The counting can vary depending on the aircraft.

“SIIPPI (WING)”

- Move your eyes to the wing (or to a corresponding point of reference) and keep them there.

“YLÖS (tai ULOS) (UP/OUTSIDE)”

- Move your body upward (or outward).

“ALAS (tai SISÄÄN) (DOWN/INSIDE)”

- Move your body downward (or inward).

“TAIVUTA (ARCH)”

- Push yourself outwards to the side, arch in a good position and immediately move your arms and legs to the symmetrical freefall position. Keep looking at the aircraft for as long as you can because it helps you to do a good exit. Also, count out loud to “five-thousand” and start the required procedures during the jump.

It is important to learn to count from the very beginning, since it is practically the only way of maintaining a sense of time at this stage of the parachuting career. You should count by shouting out loud thousands: “One-thousand, two-thousand... five-thousand...” In your exit practices, you should start learning the right rhythm, not just shouting numbers but seconds. In the air, a few seconds may feel like a very long time.

3.5 The Basics of Freefalling

If you are attending **a static line course** you can go straight to *Parachute Deployment, Checking and Clearing* ([3.7 p. 27](#)). You can return to this chapter (and the chapter 3.6 *Opening the parachute*) when you begin jumping self-deployment jumps.

Because of the earth's gravity, the velocity of a jumper accelerates during freefall. In 10–12 seconds your falling speed settles to about 180–190 km/h (50–53 m/s) due to air resistance.

The average velocities of jumpers (towards the ground) and the distance they have fallen since the beginning of the jump are shown on the following chart. The falling speed depends among other things on the jumper's mass, position, clothing and the jump altitude.

Seconds	Speed (m/s)	Freefall distance (m)	Seconds	Speed (m/s)	Freefall distance (m)
1	5	5	12	53	450
2	14	19	15	53	600
3	23	42	20	53	880
4	32	74	25	53	1140
5	38	112	30	53	1410
6	42	154	35	53	1670
7	45	200	40	53	1940
8	48	250	45	53	2200
9	50	300	50	53	2470
10	51	350	55	53	2750
11	52	400	60	53	3000

3.5. Jumper's average velocity and falling distance with time.

Students must start deployment procedures above 1300 meters. If the deployment happens at a lower altitude, the instructor must be informed.

3.5.1 Using an Altimeter During Freefall

An altimeter must be used during every jump. Only exception being water jumps where the jump altitude is not over 1500 meters. The operation of altimeters is based on the change in air pressure. Air pressure decreases about 1 mbar/8 m when going upward.

Students who have done the **Static Line course** begin using an altimeter starting from 10 second freefalls. During a 10 second freefall counting is just a backup while a working altimeter determines the opening altitude. Keep track of your altitude about every five seconds during the whole jump.

Student who have done the **Accelerated Freefall course** start using an altimeter from the very first jump. Keep track of your altitude about every five seconds.

Altimeters can be split into two main groups: visual and audible altimeters. From a visual altimeter you can read altitudes related to exit, break-off, deployment and canopy maneuvers as well as see when you need to make the final decision in a reserve situation. An audible altimeter alarms at a pre-set altitude (or altitudes).

A visual altimeter with a meter scale is the only acceptable meter during the beginning of a skydiver career. You will get to know altimeters and learn how to use them at Beginner course.

3.5.2 Using an Altimeter

When using an altimeter, note the following:

- The meter must be put to a place where you are always able to see it.
- Keep your basic freefall position while you look at the meter.
- Glance the altimeter by turning your head.
- Read the meter by comparing the position of the meter's hands, not by staring at the numbers.
- You must keep track of time during every jump because the altimeter can break.
- If the meter gets stuck or is unreadable, open your parachute immediately. Remember to still pay attention to other skydivers.
- The meters have been calibrated to work the best at the opening altitude. Differences between altimeters are common at high altitudes.

3.5.3 Errors

The most common flaws and errors regarding the altimeter's function:

- Differences at pressure and erratic readings during freefall jumps.
- The meter freezes because of moisture or condensed water.
- The meter gets stuck due to impact or dirt.
- A mechanical fault because the meter fell on the ground or was stepped on.
- Empty batteries.

If the starting and landing places are different, you must know how to calculate height differences and how to do meter settings.

3.6. Opening the Parachute

3.6.1 Order of Importance When Opening a Parachute

1. **Open the parachute.** When performing a self-deployment jump your most important job is to always open the parachute yourself.
2. **Open at the opening altitude.** At every jump there is a given opening altitude where the parachute must be opened.
3. **Open at a stable position.** Try to open your parachute at a stable position, but it is more important to open it at the right altitude.

3.6.2 Opening Systems

Spring-loaded Pilot Chute

A spring-loaded pilot chute is attached to a main parachute with a bridle that goes through the bottom of the deployment bag. The spring is either a cone shaped model or a cylinder shaped model. A spring-loaded pilot chute is either made entirely from F-111 fabric or made partly from gauze. It is either open or closed from its bottom. A spring-loaded pilot chute is opened by pulling an opening handle. Keep the handle in your hand and put it somewhere safe (for example under your chest strap, through your chest strap buckle or inside your jumpsuit) after opening the chute.

Hand Deployed (HD) Pilot Chute

When opening a hand deployed pilot chute, the pilot chute is thrown strongly into free airflow. Throwing a hand deployed pilot chute into air while making a turn or spinning rapidly will always cause problems during opening, for example line twists. If the opening position isn't stable, the HD also gets caught much more easily to the jumper's gear or limbs.

A student who started jumping using a spring-loaded pilot chute must get training when moving on to use an HD pilot chute. After the training, the student must know how to throw a HD pilot chute into the air away the turbulence caused by the jumper's body.

No other performances should be done when getting used to an HD, at least not on the first jump. The jumper should not get back into using a spring-loaded pilot chute after getting used to the HD pilot chute.

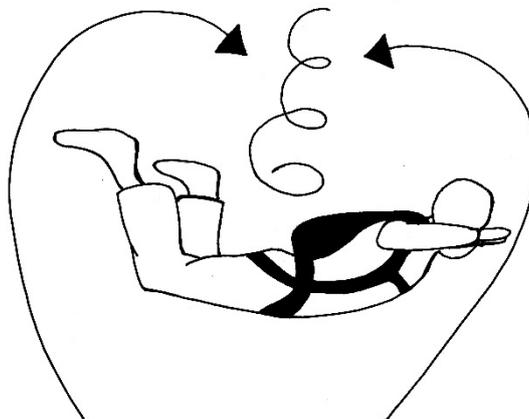


3.6. *The jumper has thrown the HD and is returning his/her arms to the freefall position.*

3.6.3 Dangerous situations

- An unstable position, arms(s) or leg(s) inside → falling on your side/back → it's possible to get tangled up on your opening parachute.
- A pull from release handle → the main parachute is released after normal deployment → reserve procedure.
- A pull from the reserve handle → the reserve parachute deploys.
- Lines get caught on the jumper → try to get away of the tangled lines, use a hook knife when needed → reserve procedure.
- Sometimes the pilot chute goes over the canopy's leading edge (nose) and gets under the canopy → do a test to see if you can steer → if the parachute doesn't act normally do the reserve procedure.
- Position is uncontrollable → open the main parachute immediately.
- Pilot chute in a turbulence:

When you open the parachute, the pilot chute can stay at the burble a.k.a turbulence formed behind the jumper's back. If nothing has happened after the pull and counting to "five-thousand", glance over your shoulder. Your position tilts and the pilot chute should get some air. If the parachute does not open, do the reserve procedure because the pilot chute may have gotten stuck on something or the container is stuck. If you are sure you know where the problem is, you can try to shake it loose. If you do not succeed on the first try or you cannot see the cause of the problem, do the reserve procedure immediately.



3.7. *Turbulence (burble) formed behind the jumpers back.*

3.7 Parachute Deployment, Checking and Clearing

When you do a **static line jump** off the aircraft, the automatic deployment device will first open the main container and then pull the deployment bag out. When doing an **AFF jump**, the pilot chute thrown in the air will also open the container and then pull the deployment bag out. The lines begin to unstow from their rubber bands. The canopy comes out of the deployment bag and begins deploying from the middle. The slider moves down the lines, slowing the deployment of the canopy. Your task is to check the parachute and clear it if necessary.

After you have counted to “5 1000” (= *five-thousand or later 5000*) check the parachute. The parachute is FLYING when:

- the canopy is symmetrical
- the lines are tight.

After the parachute check, put your hands on the rear risers. If the lines are twisted, untwist them by throwing your legs and spreading the risers (*SELVITÄ – CLEAR THE CANOPY*).

Pull down both control toggles (steering handles, behind the rear risers) to release the half brakes. You may release the half brakes only after the lines are no longer twisted.

When necessary, pump the slider down and open the cells. To pump, pull down the control toggles approximately to waist level for a few seconds, and then smoothly return the toggles to their top position. You may repeat the pump several times (*SELVITÄ – CLEAR THE CANOPY*).

If the canopy is NOT FLYING OR CAN'T BE CLEARED, start the emergency (reserve) procedure immediately (section [4.4 p. 40](#)).

After you have checked the parachute and, when necessary, cleared it, check the following (**AAHL**):

- **AIRSPACE** (also during untwisting and pumping; dodge when necessary and/or shout a warning ([section 5.4.2 p. 48](#))).
- **ALTITUDE** (also during untwisting and pumping).
- **HANDLES** in their pockets* (main parachute release handle and reserve handle)
- **LOCATION** (both your location and the landing area location).
- * If the reserve release handle is partly detached from its Velcro®, continue the parachute check. If the reserve handle is entirely detached from the Velcro®, do the emergency (reserve) procedure.
- If the reserve release handle is out of its pocket, do the emergency (reserve) procedure ([4.4 p. 40](#)).

Start steering and turn the parachute against the wind when necessary.

3.8 Steering

3.8.1 Flight Modes

Full flight

- To reach full flight, raise the control toggles (steering handles) all the way up. When flying in full flight, the parachute reaches its highest horizontal speed.

Half brakes

- When flying in half brakes, pull/lift your hands and the toggles approximately to your shoulder level. The parachute will brake. When flying in half brakes air speed and ground speed are lower than at full flight.

Full brakes

- To reach full brakes, draw the toggles further down approximately to hip level. The parachute will brake strongly. When in full brakes air speed and ground speed are lower than in half brakes.

Stalling

- The parachute stops flying or stalls when you draw down the toggles further below the full brakes. When stalling, the parachute's sinking rate increases. Therefore, be careful not to stall your parachute when you are low. To recover the parachute from stall, raise the toggles SMOOTHLY 10–20 cm upward all the way to full flight. After this, check the parachute and clear it, when necessary ([4 p. 36](#)).

Try different flight modes. Remember: only do that when flying over 600 meters.



3.8. Full flight.



3.9. Half brakes.

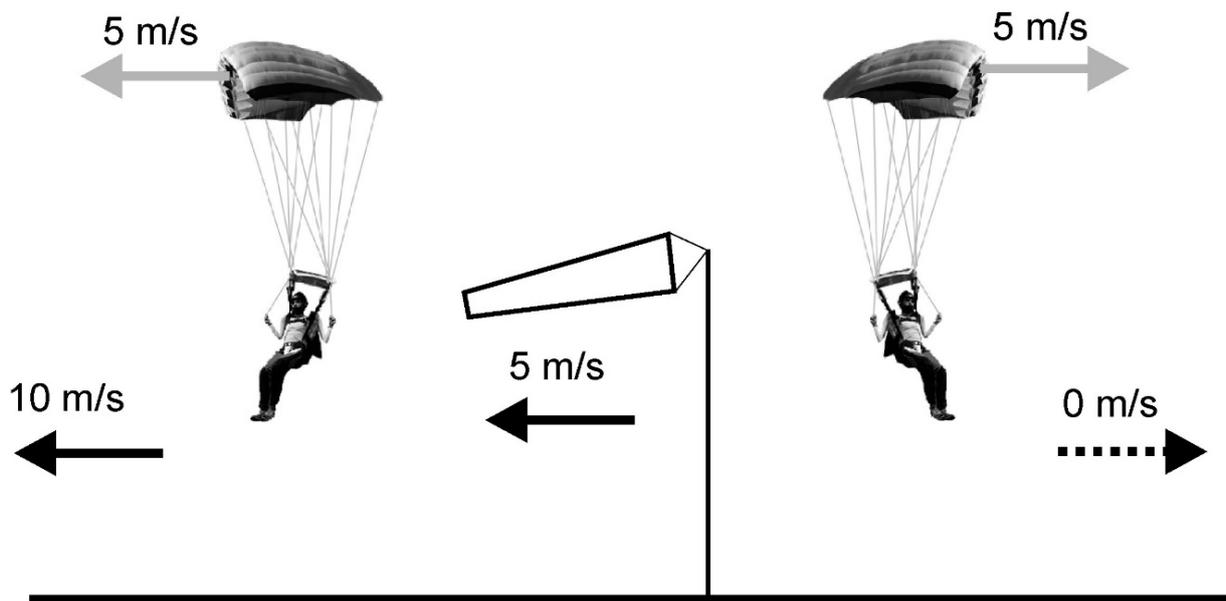


3.10. Full brakes.

3.8.2 Air Speed and Ground Speed

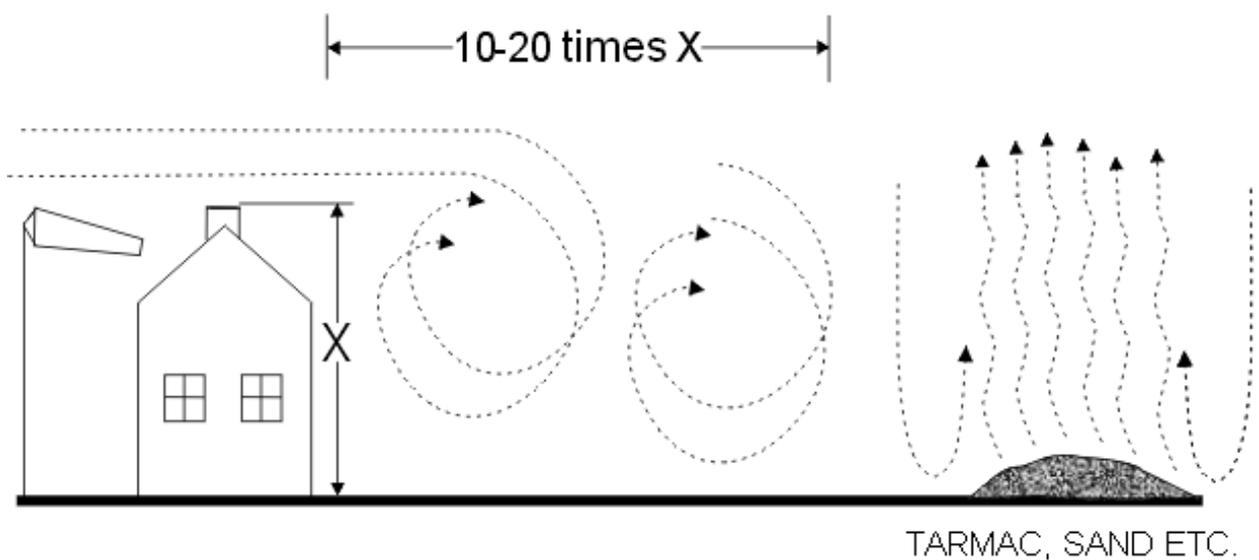
A ram-air parachute is very safe, but because of its high performance it can be dangerous to the parachutist if used in the wrong way. Therefore, it is important to know the characteristics of the parachute and use it correctly.

In the air, a ram-air parachute always flies at the same speed (approximately 8 to 10 meters per second) in full flight, regardless of the winds. This standard speed is called air speed and it has nothing to do with the question whether the parachute is flying up, cross or down the wind. Ground speed is the speed at which the parachute moves in relation to the ground. Ground speed changes based on the flight direction in relation to the wind. Ram-air parachute moves faster in tailwind than in headwind. Therefore, you should always try to land against the wind.



3.11. Airspeed and ground speed.

3.8.3 Turbulence



3.12. Buildings, other obstacles and warm ground cause turbulence.

Turbulence and uneven airflows can change the direction of air currents and affect the cells so much that the canopy's angle of incidence becomes dangerous. Strong turbulence can empty the canopy entirely or partly. A deflated canopy inflates again when it reaches the right angle of incidence in relation to the airflow. Turbulent weather may be an obstacle to parachuting, even if the strength of the wind does not exceed the limit for student parachuting. Keep the control toggles in full flight in turbulent weather. Braking too strongly may result in a stall caused by turbulence.

Turbulence may be of any size. Turbulence varies from a few meters to tens of meters in diameter. Turbulence is caused by obstacles that disturb free airflow, such as buildings, forests and hills, and by differences in the ground temperature (rising and falling air currents). Turbulence also forms in the air behind another parachute.

The most dangerous kind of turbulence is usually caused by various obstacles and rising or falling air currents. Turbulence can be avoided by landing far enough from any obstacles and for example from the edge of sand, where air currents change their directions.

3.8.4 Turns

Before turning, always look at the direction you are going to turn to check that the airspace is free.

Pull down the left toggle to turn left and the right toggle to turn right. The parachute inclines in the direction of the turn which accelerates the sinking rate. Therefore, **no steep turns are allowed when low.**

Turns in full flight require a long turning radius because of fast flying speed. The more you pull down one of the control toggles, the more the parachute inclines in the turn. This speeds the sinking rate.

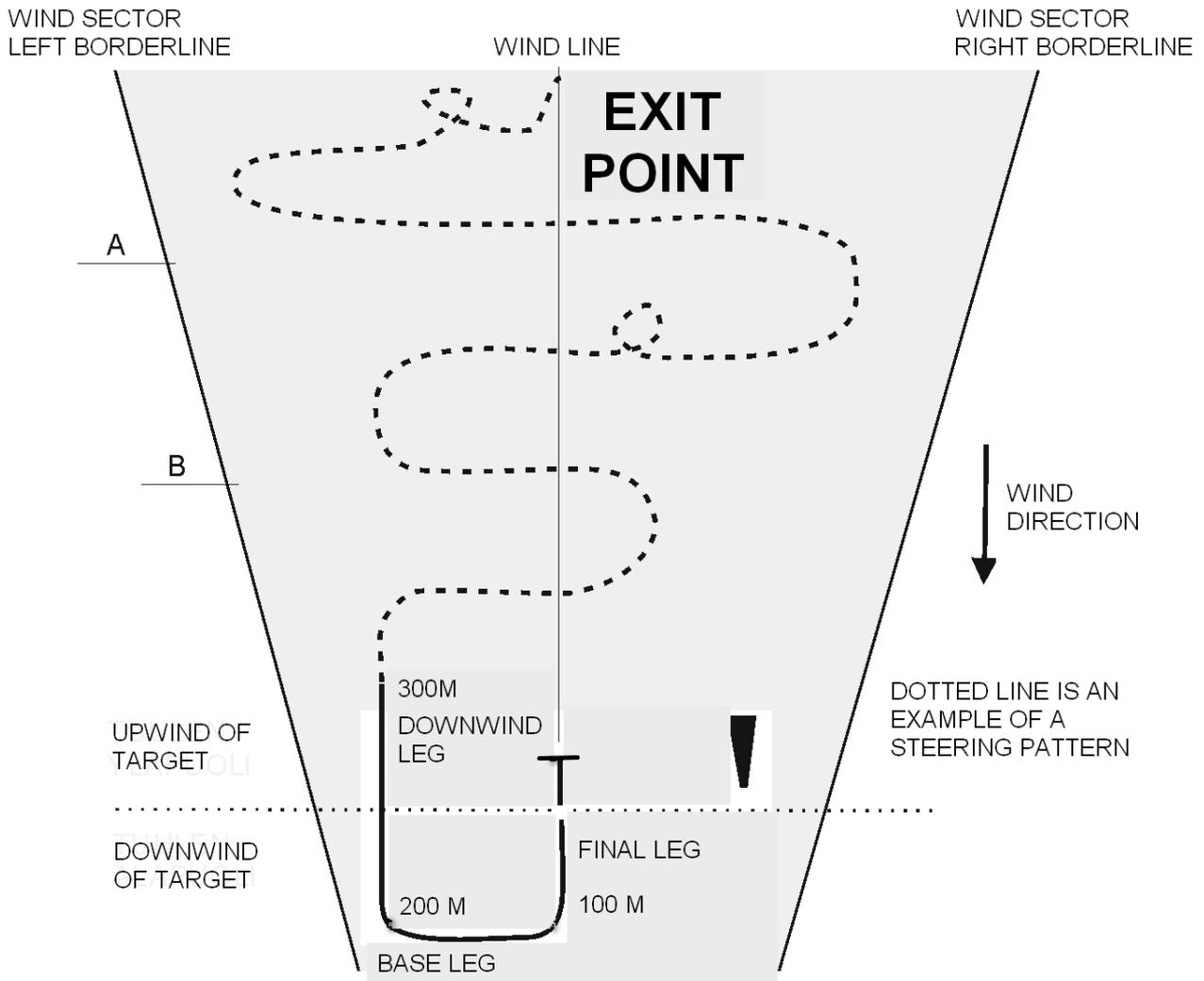
To turn at half brakes keep one toggle at shoulder level and draw the other toggle lower. The parachute turns faster but does not incline as much. Therefore, the canopy does not sink as fast as when turning in full flight.

To turn at full brakes, raise the opposite toggle. The parachute responds quickly and inclines less than in the other flight modes. Because the canopy is close to a stall at full brakes, be very cautious in every turn.

In other words, the higher the parachute's flying speed in a turn, the higher the parachute's sinking rate and the longer the parachute's turning radius.

TRY HOW THE PARACHUTE RESPONDS AND DON'T BE AFRAID TO STEER.

3.8.5 Steering to the Landing Area



3.13. Stay inside the wind sector when approaching the landing area.

After you have checked your airspace, altitude, handles and location (AAHL), start steering. When necessary turn the parachute against the wind to remain in the desired wind sector and to not drift to the target area too soon. Make a mental image of a wind line from your location to the landing pattern's entry point and include a few staging posts along that line. (A and B in the picture 3.13) Drop your altitude enough before arriving to the next staging point and when necessary fly upwind to not approach the point too early. Also determine the sector's side lines and do not cross them. Then you may begin trying out how your canopy responds in the various flight modes. Try full flight, half brakes, full brakes and turns and practice flaring.

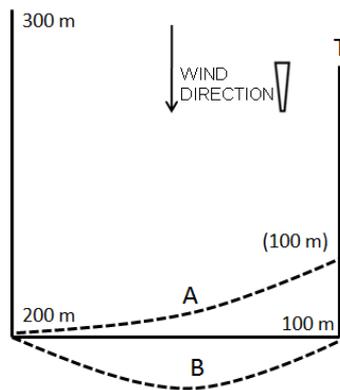
Approach the landing area while considering the wind conditions and the staging posts mentioned earlier. During the last 300 meters of altitude you should fly the landing pattern consisting of three legs: downwind leg, base leg, and final leg. The most regular leg is the final, whereas the other ones largely depend on the wind conditions. The wind cone is a sector of air where you should stay to be able to land in the target area. The edges of the wind sector are located on both sides of the wind line. The wind line is the line between your actual exit point and the target landing area; stay close to it. The wind sector decreases when you fly toward the target area.

3.8.6 Landing Pattern

The landing pattern is flown in full flight.

You should start the downwind leg upwind of the landing point at an altitude of 300 meters (the entry point depends on the wind speed). The downwind leg is flown down the wind, about 100 meters aside from the landing point. The distance to be flown downwind of the landing point depends of the force of the ground wind.

The base leg (crosswind leg) is flown across the wind. From the downwind leg, you must turn to the base leg at an altitude of approximately 200 meters. On the base leg you should fly to a point directly behind the landing point, remaining downwind of the landing point. The stronger the wind, the more you should keep your parachute turned against the wind to fly directly cross the wind in relation to the ground. If you begin the base leg at too low an altitude (Figure 3.14 A) you can adjust your landing pattern by making the final leg shorter. Similarly, if you begin the base leg at too high an altitude you can do a slightly longer circle around (Figure 3.14 B) to be able to start your final leg at a desired point.

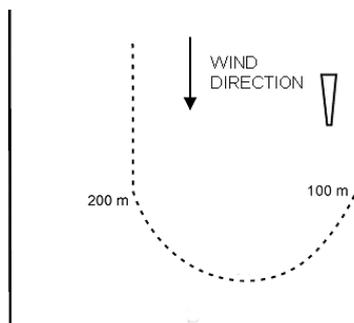


3.14. *If you are too low, follow pattern A. If you are too high, follow pattern B.*

The final leg (upwind leg) is started directly behind the target, downwind of the target. The starting point depends on the wind speed. In strong wind the starting point for the final leg is closer to the target. You should start the final leg by turning against the wind at an altitude of 100 meters. The parachute may try to turn, which is why **you must STEER it all the way down** to keep it directly against the wind.

If you realize that you are flying the final leg down the wind, do NOT turn against the wind but **land downwind**. Landing downwind is safer than hitting the ground during a turn!

Avoid any S-shaped turns during your whole landing pattern. Fly so that others can predict your flying track. Keep observing the airspace also when you are landing.



3.15. *At strong wind start downwind leg further away and fly landing pattern closer to the landing point than normally. Base leg should be shorter (dotted line).*

3.8.7 Landing priorities

1. **Straight final leg** (the most important thing is that the canopy is not turning when landing).
2. Do the **flare** and maintain a good landing position.
3. Try to **land upwind** on an open area.

Always remember landing priorities, they help you to land safely!

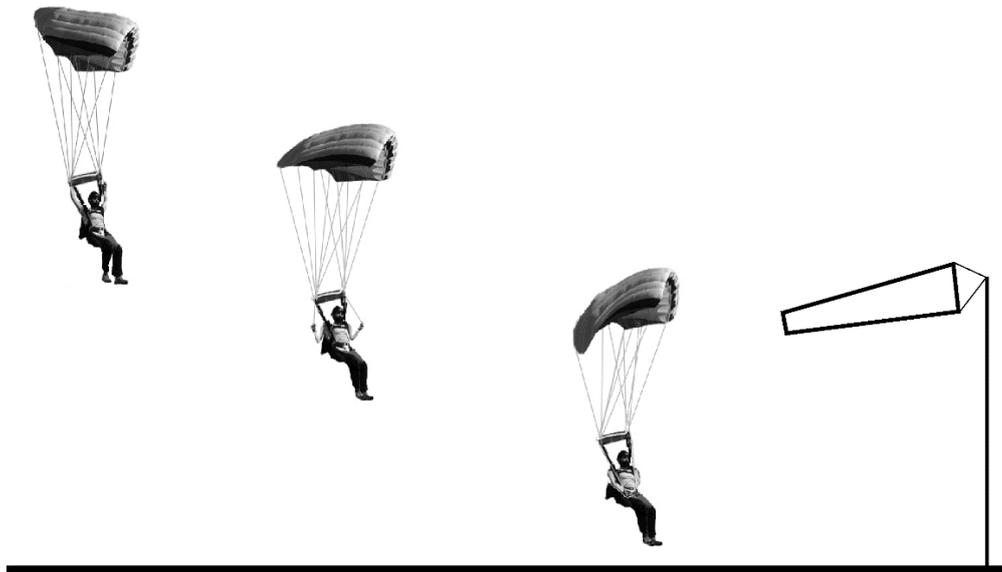
3.8.8 Flare and Touch Down

When you are at approximately 50 meters high in the final leg, take a good parachute landing fall (PLF) position:

- Hands in the toggles.
- Knees slightly bent and TIGHTLY together.
- Feet 45 degrees to one side from the approach direction and TIGHTLY together.
- Soles at the same level and parallel to the ground.



3.16. PLF position before flaring.



3.17. Flare.

At an altitude of two to three meters, flare the parachute by drawing the toggles sharply to full brakes and press your chin against your chest. For your first three jumps you will be carrying a radio receiver for instructions, such as:

- Jump 1: Instructions on steering and a supervised landing.
- Jump 2: Instructions when needed and a supervised landing.
- Jump 3: Instructions only when necessary.

When your altitude falls to treetop level, the earth seems to rush into your eyes. Do not be startled but focus instead on the right PLF position and the correct timing of your flare. You may use the windsock pole, the roof of a low building or another suitable object as a point of reference.

If you flare too early and the parachute stops too high, **YOU MUST NOT RAISE THE TOGGLES**. Keep the parachute in the braking state and be prepared for a PLF. If you raise the toggles, the parachute will dash forward and you will have a hard landing. If you do not hear the flare command, flare independently. If the timing of the flare is wrong or if you flare poorly, your landing may be hard. Therefore, **YOU SHOULD ALWAYS BE PREPARED TO MAKE A PLF PRACTISED DURING THE COURSE**.

Most student injuries are ankle sprains or fractures, most of which could be avoided by keeping a good PLF position until the end of the landing.

Always remember when you are under the canopy:

- Observe the airspace.
- Observe your altitude.
- No radical steering movements.
- Observe your location, stay at the instructed area and steer on the planned route.
- Do not fly near another jumper.
- Jumpers below have the right of way.
- The parachute will not turn in an instant.
- Observe the windsock.
- Turn into the final leg at 100 meters.
- Fly the final leg.
- Steer the canopy all the way down.

3.8.9 Parachute Deflation

After landing the parachute may begin to drag you if the weather is windy. You can deflate the parachute by letting go of one toggle and pulling the other to bring the canopy toward yourself. You may also run to the other side of the parachute. This will turn the parachute so that the wind can no longer fill the cells. The very last resort is to release the main parachute ([4.4 p. 40](#)).

DO NOT REMAIN LYING ON THE GROUND IF YOU DO NOT NEED HELP.

If you see another jumper in difficulty, it is your responsibility to help.

3.8.10 Radio Commands

You will be carrying a radio receiver at least during your first three jumps. The purpose of the radio is to assist you in steering and in flaring at the right time. Act independently every time, since you will be given instructions only when necessary. The radio is just a backup and disturbances are possible.

1. Connection test before boarding the aircraft
CALL
 - Respond by raising your hand.
2. Connection test in the air
CALL + HEILUTA JALKOJA (Swing legs)
 - Respond by swinging your legs.
3. Turns
CALL + VASEN, VASEN, SUORAAN (Left, left, straight)
CALL + OIKEA, OIKEA, SUORAAN (Right, right, straight)
 - Keep turning until you hear the command SUORAAN (straight).
4. Braking
CALL + JARRUTA, JARRUTA (Brake, brake)
 - At each command, draw down both toggles 10–15 cm.
5. Decreasing brakes
CALL + NOSTA, NOSTA (Lift, lift)
 - At each command, raise both toggles 10–15 cm.
 CALL + LIIDÄ (Full flight)
 - Full flight.
6. Independent steering
CALL + OHJAA ITSENÄISESTI (Steer independently)
 - Continue to steer independently.
 - This command cancels the previous commands.
7. Flare
CALL + JALAT YHTEEN (Legs together)
 - A good PLF position, feet and legs tightly together.
 VEDÄ (Flare)
 - Draw down both toggles sharply to full brakes and keep the PLF position.

4 Flying or Not Flying

The parachute is not necessarily always fully developed after deployment and it may require line untwisting and/or pumping (3.7 p. 27). Both procedures are quite normal, particularly with automatic activation of parachute deployment (due to a poor exit or the aircraft's low airspeed). The parachute is flying even if the end cells of the canopy are deflated, the slider is up, and the lines are twisted if the parachute fulfils the criteria of a flying parachute:

- The canopy is symmetrical
- The lines are tight.

Always remember to observe your altitude to be able to do the reserve procedure if necessary.

IF YOU CANNOT DECIDE WHETHER YOUR MAIN PARACHUTE IS FLYING OR NOT, IT IS NOT FLYING! → DO THE RESERVE PROCEDURE.

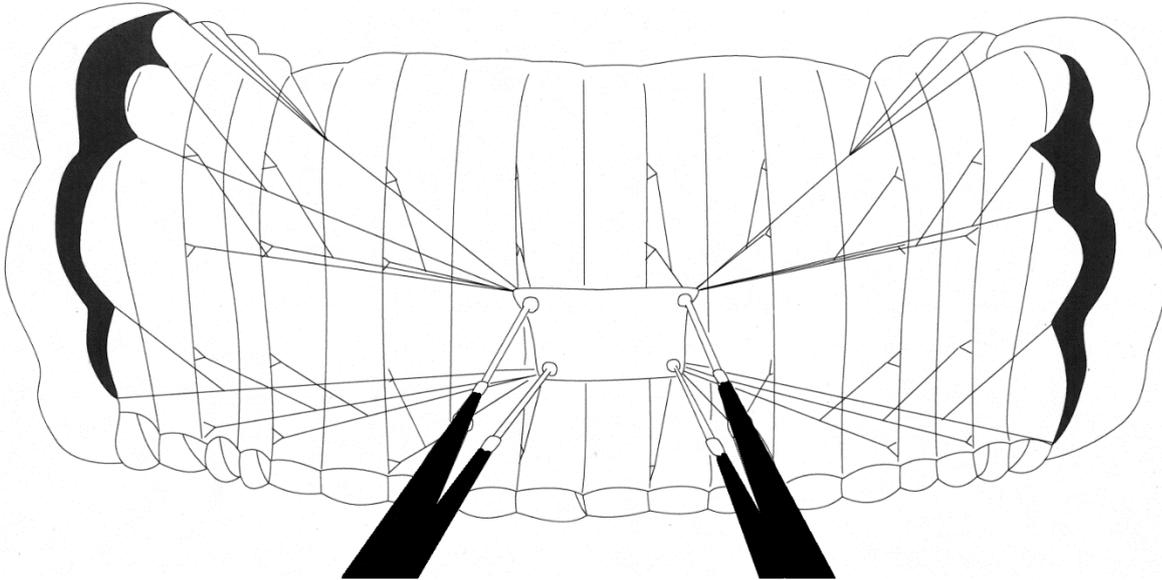
4.1 Flying – Fully Deployed



- The canopy is symmetrical.
- The lines are tight.
- The slider is down.

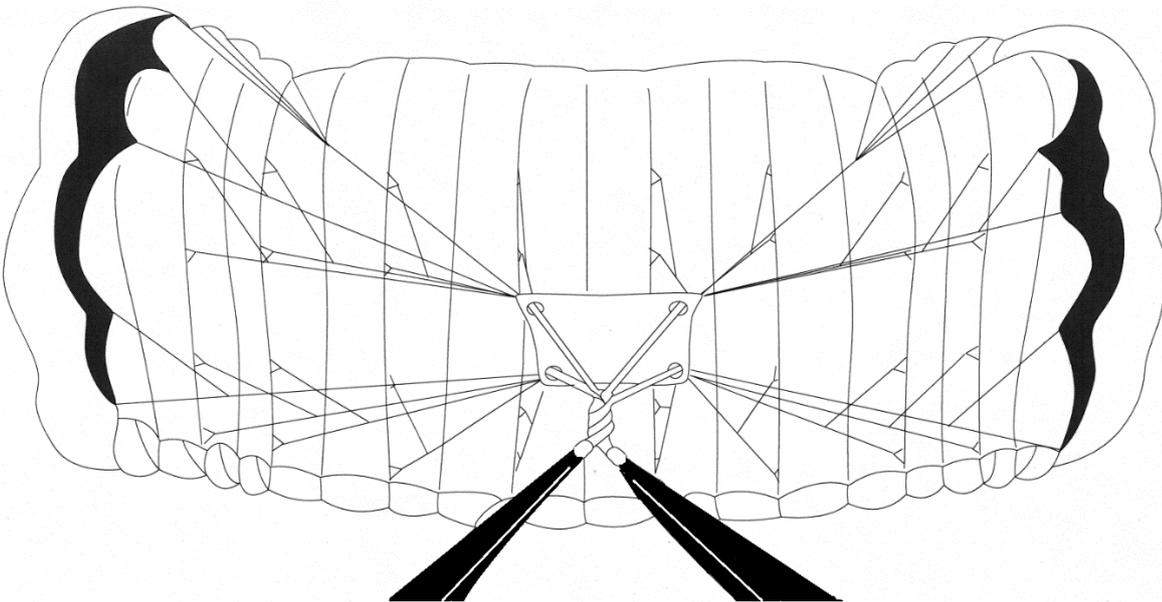
4.2 Flying – Clear it!

The slider is up



- Pump to get the slider down.
- Observe your altitude.

The slider is up and the lines are twisted



- Spread the risers, throw your legs to untwist the lines and pump to get the slider down.
- Observe your altitude.

The end cells are deflated and the slider is up



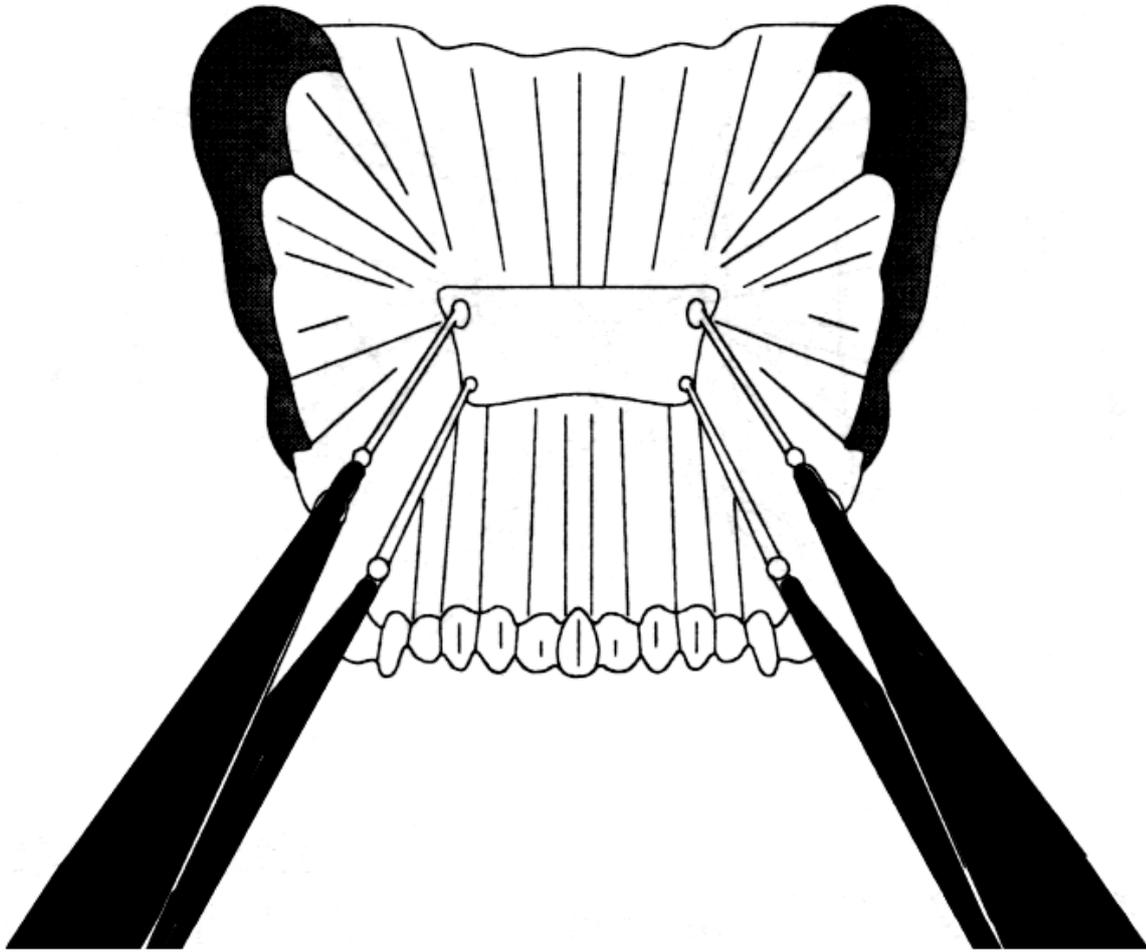
- Pump to get the slider down and to open the cells.
- Observe your altitude.

An end cell is deflated, the slider is up and the lines are twisted



- Spread the risers and throw your legs to untwist the lines, pump to get the slider down and to open the cell
- Observe your altitude.

The parachute is deploying



- Pump to open the canopy, when necessary
- Observe your altitude.

4.3 Not Flying

Examples of when the canopy is not flying



- Do the reserve procedure.



- Do the reserve procedure.



- Do the reserve procedure.

4.4 Using the Reserve

Important altitudes:

600 m

- Until this altitude, you may clear the main parachute, in other words, untwist the lines, pump to open the end cells and to get the slider down.
- If you do not succeed in your attempts by 600 meters, do the reserve procedure.

300 m

- Below this altitude, it is not recommendable to release the main parachute – for example, after colliding with another jumper, because the reserve parachute may not necessarily have time to deploy. If you end up in a situation with a non-flying main parachute below 300 meters, open the reserve by pulling directly the reserve ripcord handle (points 6–9 on next).

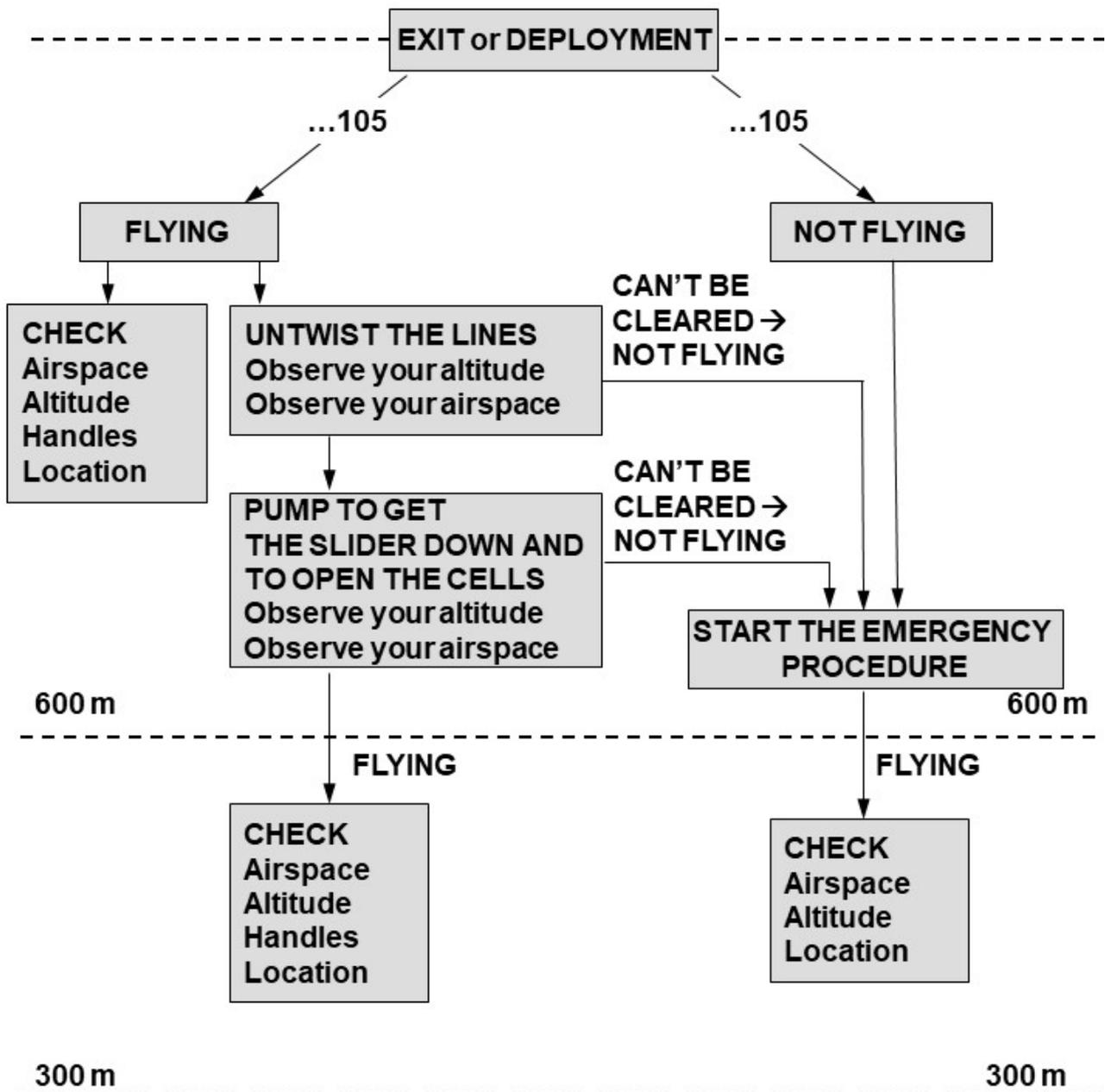
Reserve Procedure

1. Keep arching.
2. Check your altitude.
3. Look at the main parachute release handle (on your right) and reach it with both hands.
4. Break the Velcro® and pull until your arms are straight.

5. Drop the release handle.
6. Look at the reserve ripcord handle (on your left) and reach it with both hands.
7. Break the Velcro® and pull until your arms are straight.
8. Arch.
9. Drop the reserve handle or keep it (do as you are instructed at your club).



4.1. Reserve emergency procedures.



Below 300 meters, it is not recommendable to release the main parachute – for example, after colliding with another jumper, because the reserve parachute may not necessarily have time to deploy. If you end up in a situation with a non-flying main parachute below 300 meters, open the reserve by pulling directly the reserve ripcord handle.

4.2. Action if main parachute malfunctions after exit (SL) or after opening.

Add your clubs' emergency instructions for emergency jump and emergency landing here.

5 Emergencies in Parachuting

5.1 Emergencies in the Aircraft and in the Exit

5.1.1 Opening of the Container in the Aircraft

Unintentional opening of the (main or reserve) container is mostly caused by the jumper's careless movement. The container or the main or reserve handle may get stuck somewhere. You can prevent this effectively by acting calmly and avoiding unnecessary movement. If your or someone else's container nonetheless opens, you should immediately prevent the parachute from deploying and call the jumpmaster by yelling "**VARJO AUKI! (PARACHUTE OPEN!)**".

When the aircraft is flying with the door open, a parachute may get into the airflow from an opened container. If the parachute opens inside the aircraft and the airflow catches it, the airflow will pull out the parachute and the parachutist. This will most likely damage the aircraft and hurt the jumper.

If your container opens at the exit or the parachute gets out of the door, jump out without caring about the right position. In this case, the jumpmaster will help you out quickly. Swift action is the best remedy. By acting fast, the situation can be saved.

5.1.2 Emergency Jump

If the pilot must lighten the aircraft or the aircraft cannot be steered, the jumpmaster commands the jumpers: "**HÄTÄHYPPY! (EMERGENCY JUMP!)**" At the "**OVELLE! (TO THE EXIT!)**" command, you must move to the exit without getting ahead of your turn. At the "**MENE (GO!)**" command, exit immediately. The emergency jump procedure is continued until everyone has jumped out or the jumpmaster gives the command "**SEIS, PAKKOLASKU! (STOP, EMERGENCY LANDING!)**" In this case, those remaining on board will prepare for emergency landing. The emergency procedures differ in each club/aircraft (check your clubs' directions on emergency jump situations on the page 43).

Next jumper moves to the exit immediately when jumpmaster commands "**OVELLE**", at "**MENE**" command do as written above.

5.1.3 Emergency Landing

In skydiving activity the aircraft is usually flying so close to the airport that it can glide back in case of engine failure. In that case, the jumpmaster commands "**PAKKOLASKU! (EMERGENCY LANDING!)**" The emergency landing procedures differ in each club/aircraft (check your clubs' directions on emergency landing situations on the page 43).

When the aircraft is on the ground and it has stopped, exit fast to avoid any risk of fire. Help those who have injured if you can.

For emergency jumps and emergency landing, you must remember that the pilot is the captain of the aircraft, but the jumpmaster is the leader of the jumpers. Any instructions for the students ALWAYS come from the jumpmaster. The main thing is to act calm according to instructions (check your clubs' directions on emergency landing situations on the page 43).

5.1.4 Hanging from the Aircraft

If you end up hanging from the aircraft with your main canopy caught up to the aircraft, you will notice that from the fact that you are hanging from the three-ring release system through the main risers. Try to take an arch position to not spin around and to check where you are caught. Make sure that you are being towed only by your three-ring release system. After this, do the reserve procedure ([4.4 p. 40](#)).

If you end up hanging from the aircraft with your static line stay calm. WAIT for your jumpmaster to cut off your static line. Only after this, do the reserve procedure. NOTICE that it can take some time before your static line is cut off because you might have to be moved to a better exit point.

5.2 Getting Entangled with Suspension Lines

If your exit or opening position is poor, you may become entangled with suspension lines. Try to get clear from the lines before the reserve procedure. Use a hook knife if necessary. At any case do the reserve procedure ([4.4 p. 40](#)) no later than at 600 m.

A good exit position and an opening position effectively prevents this kind of emergency.

5.3 Pilot Chute Emergencies

If your exit/opening position is poor, the main bridle connecting the pilot chute to the main canopy may become entangled for example around your arm. Shake your arm to release the bridle. If you cannot release the bridle immediately (one release attempt) or you do not know what it is entangled with, you must do the reserve procedure ([4.4 p. 40](#)). If the bridle is stuck in your arm, you may have to do the reserve procedure with only one hand. Having good exit and opening positions, and by properly throwing the pilot chute to free airflow, effectively prevents these kinds of emergencies.

During deployment the pilot chute may sometimes get over the nose of the canopy and end up under the canopy. Make steering experiments to find out if the parachute performs normally. If you cannot steer the parachute or it moves roughly, do the reserve procedure ([4.4 p. 40](#)).

When you open the parachute, the pilot chute can stay at the turbulence formed behind the jumpers back. If nothing has happened after throwing your pilot chute and counting to “five-thousand”, glance over your shoulder (check). Your position tilts and the pilot chute should get some air. If the parachute doesn’t open immediately, do the reserve procedure ([4.4 p. 40](#)) because the pilot chute may have gotten stuck on something or the container is stuck.

If you are sure you know where the problem is, you can try to free the part that is stuck. If you don’t succeed on the first try or you can’t see the cause of the problem, do the reserve procedure immediately.

5.4 Emergencies under the Parachute

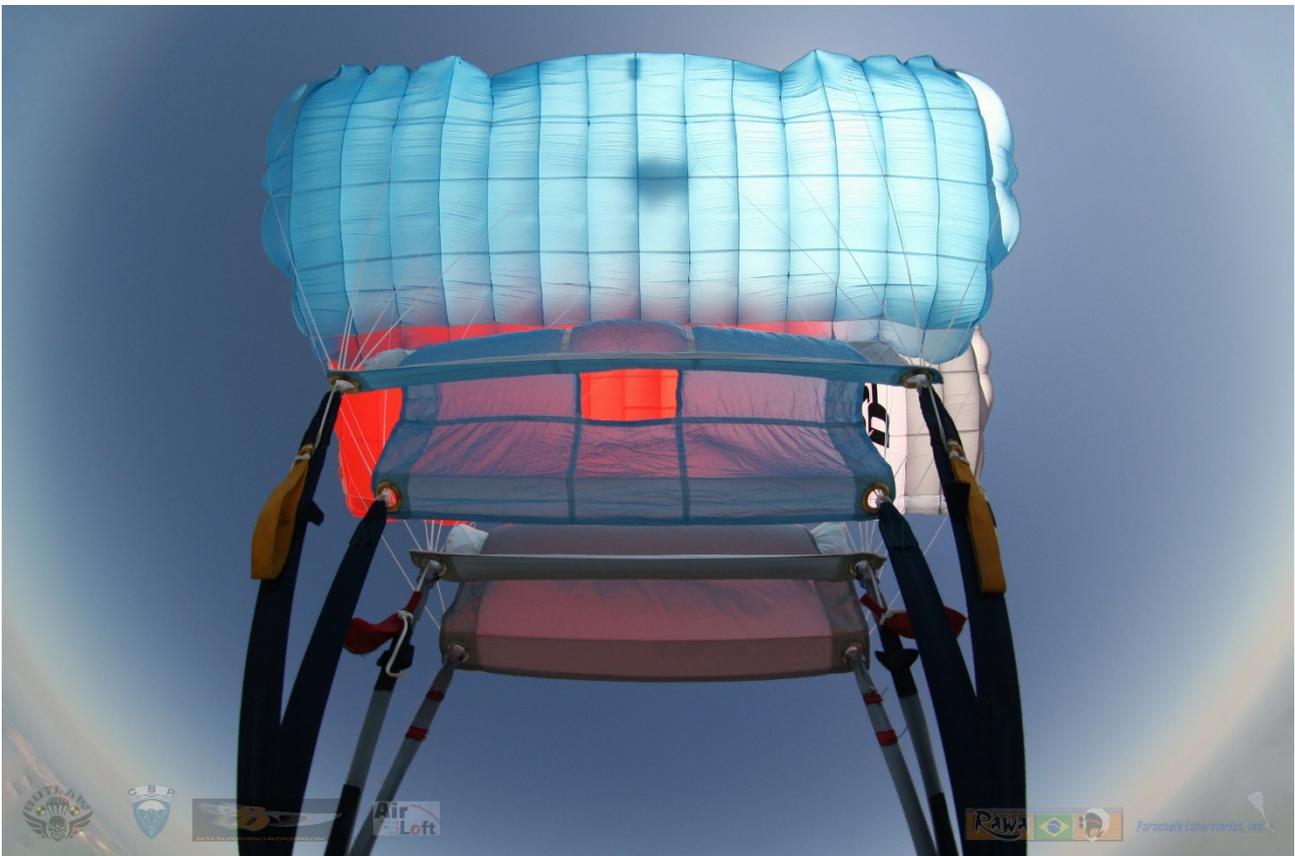
5.4.1 Two Open Parachutes

The main reasons for students ending up with two open canopies are opening the canopy low (jumps with self-deployment) or too aggressive handling of the canopy. You should not fly the landing pattern if you have two open canopies. If the half brakes of the other canopy are released, keep the speed of the both canopies the same.

Biplane

The parachutes are one after the other. You must cautiously steer the first parachute with only the necessary steering movements using the rear risers. Do not release the half brakes. Do not brake in landing: prepare for a hard landing.

DO NOT RELEASE THE MAIN PARACHUTE!



5.1. Biplane.

Side by side

The parachutes are side by side. You must cautiously steer the dominant parachute (the one more clearly above your head) with only the necessary steering movements using the rear risers. Do not release the half brakes. Do not brake in landing: prepare for a hard landing.

DO NOT RELEASE THE MAIN PARACHUTE!

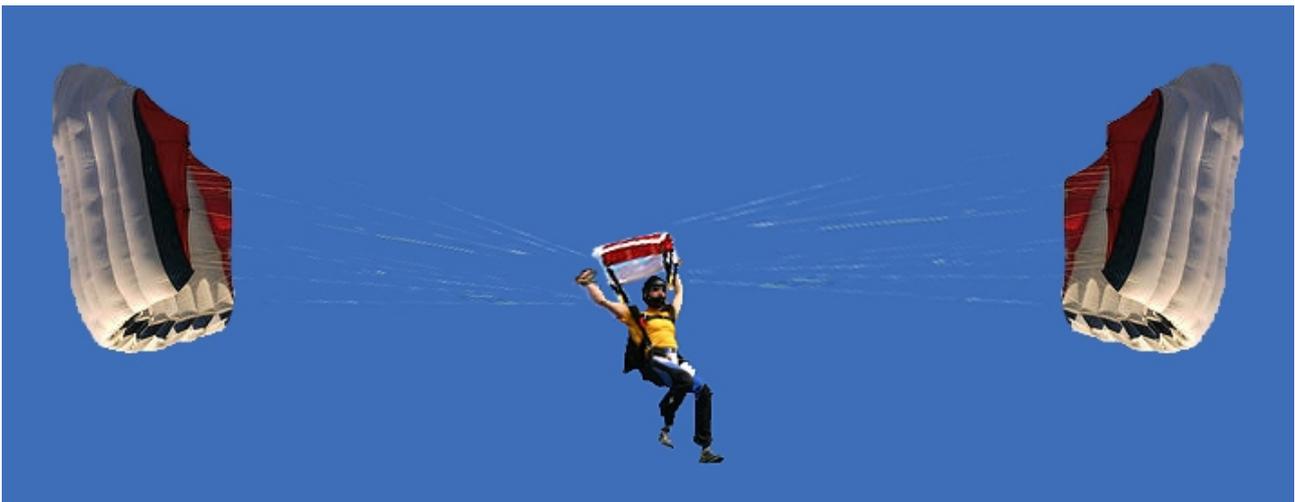


5.2. Side by side.

Downplane, falling fast

The parachutes are side by side but separate from each other, sinking fast. This flight mode is rare and the parachutes can move to a side-by-side formation by themselves.

RELEASE THE MAIN PARACHUTE!



5.3. Downplane.

5.4.2 Parachute Collisions

A collision is always possible when there are several jumpers in the air. Immediately after you have checked that your parachute is flying, check the airspace and be ready to dodge. Before releasing the half brakes you may steer the parachute using the rear risers (unless the lines are twisted). Dodge **TO THE RIGHT!**

Always before turning look in the direction of the turn to make sure the airspace is free. The jumper below has always the right of way. If it is too late to avoid a collision, minimize the collision speed by braking and make yourself small like a ball. Also, warn the other jumper by shouting.

If you get entangled:

- Observe your altitude. Decisions must be made high enough.
- Always talk to the other person involved about what to do.
- Make sure that you are free from the lines/the canopy before the reserve procedure (use a hook knife when necessary).

If the parachute above is flying and the one below is entangled, the jumper below may do the reserve procedure and the above jumper can usually land with the main parachute. If the two canopies are entangled with one another, it is likely that both jumpers must do the reserve procedure. In this case, both jumpers must agree on which order they should proceed to avoid collision under the reserves. If there is not enough altitude for the reserve procedure (below 300 meters), two jumpers can land with one parachute.

In all your procedures pay attention to the loss of time and altitude.

5.5 Landing on Various Sites

Usually you can avoid landing outside the target area by steering correctly. At the beginning it may be difficult to estimate the altitude and distance. This skill will improve when you gain more jumping experience. Sometimes the exit point may be wrong, especially if the winds have changed unexpectedly. Whatever the reason for the wrong exit point, you can still land safely outside the target area by making a supplementary landing plan early enough. Changing the plan at the last minute is dangerous!

Good supplementary landing sites include fields and other open areas. Regardless of where you are landing, always try to land against the wind! The most important thing is nonetheless that you do not make any steep turns when low. Also, remember to adopt a good PLF position and keep it until you finish the landing.

When you land outside the target area you may not see the windsock at the end. Therefore, when getting ready to jump make sure that you will remember, for example, the position of the sun in relation to the contrary wind. Flags, banners and smokes are also good indicators of the direction of the wind.

5.5.1 Landing into Water

You should rather land into a forest than into water. If you must nevertheless land into water, try to land as close to the shore as possible. When landing into water, do as follows:

- Release the reserve static line (RSL).
- Turn OFF the FXC (if you have one).
- Loosen your chest strap.
- Adopt a PLF position.
- Flare before touching the water.

In water:

- Deflate the canopy when necessary by releasing the main parachute.
- Open/loosen the straps and swim away from the parachute.

5.5.2 Landing on a Tree or into a Forest

When landing on a tree or into a forest, do as follows:

- Avoid individual and high trees.
- Adopt a PLF position and raise your knees to protect your lower body.
- Flare above treetops and press your elbows against your sides.
- Prepare to come all the way down to the ground and release your PLF position only after movement ends.

If you remain hanging from a tree, do not drop from high but wait for help!

A high horizontal speed causes more bruises than a high sinking rate. Therefore, it is safer to flare above a treetop than to fly directly against a tree.

5.5.3 Landing on Power Lines

If you must land on power lines, do as follows:

- Drop any handles from your hands.
- Steer the parachute until the end.
- Adopt a PLF position and flare above the lines.
- Prevent the lines from getting between your legs or in your elbows.
- If your parachute remains hanging from power lines, DO NOT TRY TO GET IT OFF.
- Wait for help.

5.5.4 Landing on a Roof

If you must land on a roof, do as follows:

- Adopt a PLF position.
- Flare on the roof.
- Deflate the parachute immediately. Release the main parachute when necessary.
- Hold on to the roof structures.
- Wait for help.

5.5.5 Hitting a Fixed Obstacle

Fixed obstacles include walls, motor vehicles, lamp posts and fences. If you hit a fixed obstacle, do as follows:

- Flare before the hit.
- Take the bang with your feet first.
- Prepare for landing.

The importance of a good PLF position is emphasized when you have to land outside the familiar target area.

6 AFF First-jump Course Accomplishments

At AFF course the student is given personal training. The training consists of eight different levels. There is at least one AFF jumpmaster with you every jump. At level eight, a jumpmaster will follow your jump from the aircraft. You will proceed forward to the next level at your own pace. You will need skills from the previous levels at every jump and, therefore, you must pass each level to move to the next one.

The student must reach all the necessary learning objectives to reach the next level. If it has been some time since your lesson about the first jump and for some reason you never jumped it, you must take the lesson again.

6.1 Freefalling at AFF jumps

When exiting the aircraft, begin your arch from your hips, move your arms and legs to the right position and keep your eyes up for as long as possible. Try to relax by exhaling through your mouth and keep your chin up. Picture pushing your hips through the air.

6.1.1 Circle-of-awareness

After you have counted to “five-thousand” perform a “circle-of-awareness” check:

1. GROUND
 - Move your eyes to the horizon. Choose a big heading that is easy to spot.
2. METER
 - Keep arching, move your eyes to the meter and read the reading ([3.5.1 p. 24](#)).
3. ALTITUDE (RS-JM – the reserve side jumpmaster)
 - Look under your arm at the jumpmaster on your left and tell him/her the meters reading. At this stage, the jumpmaster can correct your position by using hand signals (*Hand Signals, look at appendix 5 on the Laskuvarjohyppäjän opas*). If there is nothing to correct on your position, the jumpmaster will give you the OK signal (a thumb up). Do not continue the circle-of-awareness before you have been given the OK signal!
4. ALTITUDE (MS-JM – the main side jumpmaster)
 - Look under your arm at the jumpmaster on your right and perform the same procedure as before. If everything is fine, you will be given the OK signal. Do not continue the circle-of-awareness before you have been given the OK signal!

The circle-of-awareness makes you stay aware of your altitude and direction.

6.1.2 Practice Deployment

Begin independently but if you see the practice deployment hand signal you should start. Work rhythmically and verbalize each action.

1. ARCH
 - Push your hips downward / check your arch.
 - The arch lasts and the chin stays up during whole practice deployment.
2. REACH
 - Keep your eyes up. Move your left hand to your forehead level so that you can see your thumb. Move your right hand, palm open, to your main parachute deployment handle. Your arm movements must happen at the same level, symmetrically and simultaneously. Only your arms are moving. The position of your head or the rest of your body should not change.

- Touch the handle with your palm and memorize its location. It is important to feel clearly where it's located.
3. PULL
- Symmetrically and simultaneously return your arms to their original positions. Only your arms are moving. The position of your head or the rest of your body should not change. NOTE that it is only a practice deployment so do not actually deploy the parachute!

6.1.3 Parachute deployment

On your first jump you will begin deployment procedures at 1600 meters. First, give the hand signal for deployment by waving both arms overhead. After the opening signal, begin the deployment procedures calmly and with precision. The (real) deployment is done the same way as the practice deployment. The difference is that you actually grab a hold of the handle and throw the pilot chute vigorously to the air. The parachute doesn't need to be open immediately at 1600 meters.

ARCH – REACH – PULL

Next, count out loud “one-thousand, two-thousand... five-thousand”. Then check the parachute and clear it when necessary. If the parachute doesn't make it or isn't flying, perform the reserve procedures. At levels 1 and 2 the RS JM will hold on to you until your parachute opens and at levels 3–7 a JM secures the opening.

6.2 Level 1 – Getting Used to Freefalling

Two AFF jumpmasters, a radio at the first three jumps.

If you can only see a one jumpmaster, follow his/her directions and continue the jump normally following the program. At levels 1 and 2 you are not allowed to be by yourself during freefall. If you cannot see either of the jumpmasters, deploy the parachute immediately aka ARCH–CRAB–PULL “one-thousand, two-thousand... five-thousand” and check the canopy.

6.2.1 The Students Actions

Practice the steps of level 1 (and later all the levels) beforehand as good as you can because it will make your learning much easier and faster.

6.2.2 Getting Ready for Your First Jump

1. Demonstrate how to move to the aircraft's door and do the exit position.
2. Show how to perform a correct and controlled exit including the counting.
3. Go through and practice the planned jump step-by-step.
4. Practice the practice deployment the same way as an actual deployment.
 - a. ARCH the arch stays. Keep your eyes forward and your chin up
 - b. REACH maintain the arch and simultaneously move your right hand, palm open, to the main parachute's deployment handle and your left hand to your forehead level so that you are able to see your thumb. Take note of the position of the handle. Both of your arms will stay at the same level. Only your arms are moving, not your head or any other body part. Your eyes are looking forward and your chin is up
 - c. PULL return your hands to their original position symmetrically and simultaneously, your eyes forward and chin up. Only your arms are moving, not your head or any other body part. NOTICE that this is a practice deployment so do not actually deploy your parachute.
5. Practice procedures in case of an emergency during the flight or the jump.
6. Check the direction of the ground wind from a windsock and describe correct landing patterns.

7. Show the correct parachute landing fall position.
8. Rehearse freefall hand signals.

6.2.3 Learning Objectives

There are learning objectives on every level, which measure your learning and decide whether you can move to the next level or not. Get to know the learning objectives with your jumpmaster.

1. Finding a stable freefall position at least 10 seconds before the opening altitude
2. Altitude checking
3. Deployment procedures 1600 m (\pm 300 m) and deployment.

6.2.4 Aircraft procedures

- Locate the landing area and the correct direction for the landing at over 600 m altitude. The jumpmaster asks about the important altitudes
- The jumpmaster asks about the key factors of the jump.

6.2.5 Dive Plan

2700–4000 m	A relaxed, arched exit
	Circle-of-awareness
	3 practice deployments
	Circle-of-awareness
	GROUND – METER
1600 m	Deployment procedures and deployment

6.3 Level 2 -Controlling Your Position

Two AFF-jumpmasters, a radio at the first three jumps. The student must reach all the necessary learning objectives to get to the next level.

6.3.1 Student's Actions

1. Go through the knowledge and skills learned at level 1.
2. Practice a stable position for example with a creeper.
3. Practice all the moves which are made during freefall just like before.
4. Practice the practice deployment just like the real deployment.
5. Show the target area and go through the steering pattern planned beforehand.
6. Use mental training when getting ready for the jump.
7. Get more involved in gear checking and fitting than you were before.
8. A more independent, safe steering of the canopy.

6.3.2 Learning Objectives

1. Stable freefall position within 10 seconds of exit.
2. Maintain stable freefall position during the whole jump, including leg control.
3. Deployment procedures 1600 m (\pm 300 m) and an independent opening.

6.3.3 Aircraft Procedures

1. During the flight, repeat all the actions learned before.
2. Use a relaxing breathing technique (breathe slowly in, hold your breath for a short moment and relax while exhaling).
3. Show landmarks and point the opening altitude to the jumpmaster.

6.3.4 Dive Plan

2700–4000 m	Relaxed, arched exit
	Circle-of-awareness
	Practice deployments until OK
	GROUND, METER, ARCH, LEGS, RELAX
	Movement forward
	GROUND, METER, ARCH, LEGS, RELAX
	90° left
	GROUND, METER, ARCH, LEGS, RELAX
	90° right
	GROUND, METER, ARCH, LEGS, RELAX
1600 m	Deployment procedures and deployment

6.4 Level 3 – Stable Freefall Position

Two AFF jumpmasters, a radio at the first three jumps.

The student must reach all the necessary learning objectives to get to the next level.

If you cannot see either one of the jumpmasters at levels 3–7, you can continue the jump if all the following are true:

- You know your altitude.
- You are not spinning in any direction.
- You are not on your back.
- The situation overall is in your control.

Keep track of your altitude about every 5 seconds (GROUND, METER, ARCH, LEGS, RELAX). At the level-right altitude wave-off to signal deployment and open the main parachute normally. Do not do any other performances.

If you cannot find the main parachutes deployment handle try for a second time, but if you still cannot find the handle do the reserve procedures.

If you are not able to pull the main parachute deployment handle (handle is too tight) try to pull for a second time, but if you are still unable to deploy the parachute do the reserve procedures.

6.4.1 Student's Actions

1. Describe and perform all the knowledge and skills learned on previous jumps.
2. Practice checking the airspace with help from the JM.
3. Practice a technique on the ground to turn you belly-down from your back when necessary.
4. Show the technique that keeps you in a correct direction during freefall.
5. Focus on the jump and relax. Think what a good stable position is like and practice it.
6. Go through the jump step-by-step and rehearse it in practice.

6.4.2 Learning Objectives

1. Checking the airspace before exit.
2. A stable freefall position within 5 seconds of exit.
3. Stopping unwanted turns.
4. Deployment procedures 1600 m (± 300 m) and an independent opening without the JM.
5. An independent, safe steering of the parachute.

6.4.3 Aircraft Procedures

1. Repeat the procedures learned before.
2. Use a relaxing breathing technique and positive mental images.
3. Look at the airfield and airspace at the door together with the JM before exit.

6.4.4 Steering and Landing

1. Act as you did on the previous jumps but with even more precision.
2. You may attempt to land on your feet (but always keep a good PLF position).

6.4.5 Dive Plan

2700–4000 m	Relaxed, arched exit
	Circle-of-awareness
	Practice deployments until OK
	Stable independent freefall
	GROUND, METER, ARCH, LEGS, RELAX
1600 m	Deployment procedures and deployment

6.5 Level 4 – Turns 90°

One AFF jumpmaster.

The student must reach all the necessary learning outcomes to get to the next level.

6.5.1 Student's Actions

1. You know how to do a gear-check on the ground and before going to the aircraft. ([2.6 p. 18](#))
2. Practice through the whole jump step-by-step in practice.
3. Check the airspace and clouds before your exit and make sure to keep a safe exit distance to the previous group.
4. Check your gear before the exit ([2.6 p. 18](#)).

6.5.2 Learning Objectives

1. Checking airspace, clouds and exit distance.
2. Checking your own gear (on the ground and in the aircraft).
3. Stable freefall position.
4. At least two controlled 90° turns ($\pm 20^\circ$) (*10.2 look at the Finnish Laskuvarjohyppäjän opas*).
5. Deployment procedures 1500 m (± 150 m), a stable independent deployment.

6.5.3 Aircraft Procedures

1. Act according to the procedures learned before.
2. Check your gear yourself before the exit.
3. Check the airfield and airspace, and make sure to keep a safe exit distance to the previous group.

6.5.4 Steering and Landing

1. Act as you have learned before.
2. Try to land no more than 50 meters away from the target with as little instructions as possible.

6.5.5 Dive Plan

2700–4000 m	Relaxed, arched exit
	Circle-of-awareness (JM moves in front of the student)
	Permission to make a turn (student nods to the JM, JM answers by nodding)
	90° left
	GROUND, METER, ARCH, LEGS, RELAX
	90° right
	GROUND, METER, ARCH, LEGS, RELAX
2000 m	No turns
	GROUND, METER, ARCH, LEGS, RELAX
1500 m	Deployment procedures and deployment

6.6 Level 5 – Turns 360°

One AFF jumpmaster.

The student must reach all the necessary learning objectives to get to the next level.

6.6.1 Student's Actions

1. Show that you can correctly check and adjust the gear.
2. Rehearse the whole jump step-by-step in practice.
3. Check the airspace and clouds and pay attention to the exit distance.
4. Check your gear by yourself and automatically before the exit ([2.6 p. 18](#)).

6.6.2 Learning Objectives

1. At least two controlled 360° turns ($\pm 45^\circ$) (*10.2 look at the Finnish Laskuvarjohyppäjän opas*).
2. Even more stable freefall position.
3. Deployment procedures 1500 m (± 150 m), a stable independent deployment facing in one direction.

6.6.3 Aircraft Procedures

1. Check the gear yourself before the exit.
2. Check the airfield/airspace and clouds and pay attention to exit distance.

6.6.4 Steering and Landing

1. Do 90° turns using the risers with both your half brakes closed and half brakes open.
2. Try to land no more than 50 meters away from the target.
3. Remember the correct approach and landing technique.

6.6.5 Dive Plan

2700–4000 m	Relaxed, arched exit
	Circle-of-awareness (JM moves in front of the student)
	Permission to make a turn (student nods to the JM, JM answers by nodding)
	360° left
	GROUND, METER, ARCH, LEGS, RELAX
	360° right
	GROUND, METER, ARCH, LEGS, RELAX
2000 m	No turns
	GROUND, METER, ARCH, LEGS, RELAX
1500 m	Deployment procedures and deployment

6.7 Level 6 – Solo Exit

One AFF jumpmaster.

The student must reach all the necessary learning objectives to get to the next level.

6.7.1 Student's Actions

1. Repeat all the things learned on the previous levels.
2. Practice exit position and technique at the door ([3.4 p. 22](#) and *9.2.3 look at the Finnish Laskuvarjohyppäjän opas*).
3. Practice barrel roll technique and stabilizing (*10.5 look at the Finnish Laskuvarjohyppäjän opas*).
4. Practice back loop technique and stabilizing (*10.6 look at the Finnish Laskuvarjohyppäjän opas*).

6.7.2 Learning Objectives

1. An independent exit without any help.
2. Recovering from an unstable position in five seconds.
3. Deployment procedures 1400 m (± 150 m) and deployment.
4. Correct approach and landing patterns.

6.7.3 Aircraft Procedures

1. Go through the procedures just like on all of the previous levels.
2. Check the gear yourself before the exit.
3. Check the airfield/airspace and clouds and pay attention to exit distance.
4. Do a stable, straight exit without help from a JM.

6.7.4 Steering and Landing

1. Try to land no more than 25 meters away from the center of the given landing area.
2. Do the correct approach and landing techniques.

6.7.5 Jump progress

2700–4000 m	Straight exit
	GROUND, METER, ARCH, LEGS, RELAX
	Barrel
	GROUND, METER, ARCH, LEGS, RELAX
	Back loop
	GROUND, METER, ARCH, LEGS, RELAX
2000 m	Locating the airfield and focusing on deployment procedures.
	GROUND, METER, ARCH, LEGS, RELAX
1400 m	Deployment procedures and deployment

6.8 Level 7 – Half Series

One AFF jumpmaster.

This will be your last level jump on which a jumpmaster will jump with you. At this level, you should work as independently as possible and show that you know the safety procedures related to skydiving like, for example: stable freefall, deploying the parachute and steering.

6.8.1 Student's Actions

1. Practice diving exit position and technique (9.3 look at the Finnish Laskuvarjohyppäjän opas).
2. Practice front loop technique (10.4 look at the Finnish Laskuvarjohyppäjän opas).
3. Practice back loop technique (10.6 look at the Finnish Laskuvarjohyppäjän opas).
4. Practice turn technique (10.2 look at the Finnish Laskuvarjohyppäjän opas).

6.8.2 Learning Objectives

1. Check the airfield/airspace and clouds and pay attention to exit distance.
2. A dive exit, recovery within five seconds.
3. Recovering from an unstable position in five seconds during the performances.
4. Deployment procedures 1400 m (\pm 150 m) and deployment.
5. Safe handling of the parachute.

6.8.3 Aircraft Procedures

1. Check the gear yourself before the exit.
2. Check the airfield/airspace and clouds and pay attention to exit distance.

6.8.4 Steering and Landing

1. Try to land no more than 25 meters away from the center of the given landing area.
2. Show how to steer your parachute safely.

6.8.5 Dive Plan

2700–4000 m	Dive exit
	GROUND, METER, ARCH, LEGS, RELAX
	Front loop
	GROUND, METER, ARCH, LEGS, RELAX
	Back loop
	GROUND, METER, ARCH, LEGS, RELAX
	360° Left / Right
2000 m	Locating the airfield and focusing on deployment procedures.
	GROUND, METER, ARCH, LEGS, RELAX
1400 m	Deployment procedures and deployment

6.9 Level 8 – 15” Short Free

One AFF jumpmaster in the aircraft.

This is the last jump of the beginner course and your first jump from a lower jump altitude. A jumpmaster will no longer be with you on the jump.

READ ALSO THE CHAPTER 10.8 EMERGENCIES (on the freefall) ON THE PAGE 67.

6.9.1 Student’s Actions

Repeat all the things you have learned at the level training: a solo exit, stabilizing your position after the exit, keeping track of the altitude and a stable deployment.

6.9.2 Learning Objectives

1. Check the exit place, airfield/airspace and clouds and pay attention to exit distance.
2. A straight exit.
3. 15” freefall, checking the altitude during the freefall.
4. Deployment procedures 1400 m and deployment.

6.9.3 Aircraft Procedures

1. Check your own gear.
2. Check the exit place, airfield/airspace and clouds and pay attention to exit distance.

6.9.4 Steering and Landing

1. Try to land no more than 25 meters away from the center of the given landing area.
2. Show how to steer your parachute safely.

6.9.5 Dive Plan

1800–2500 m	Straight exit
	Meter
1400 m	Wave off and deployment

7 SL First-jump Course

7.1 Automatic deployment (Static Line)

Your first jumps are automatic deployment (a.k.a. static line) jumps. When you jump off the aircraft, the automatic deployment device will first open the main container and then the deployment device will pull the deployment bag out. The lines begin to unstow from their rubber bands. The canopy comes out of the deployment bag and begins deploying from the middle. The slider moves down the lines, slowing the deployment of the canopy. Your task is to check the parachute and to clear it if necessary.

7.1.1 Students Actions

The exit position must be a symmetric X-position or delta-position (depending on the aircraft type), you must arch strongly enough, and the position must be maintained until the parachute deployment. There will be no time for freefalling on a static line jump, but the position of one's limbs and body still affects the success of the jump.

7.1.2 Getting Ready for Your First Jump

This chapter is a recap of the chapter [3.1 Getting Ready for Your First Jump on the page 19](#).

The jump procedure does not begin when you exit the aircraft in the air. To make sure everything goes well, it is important that you take care of the preparations. You should make the decision to jump as early as the previous day to mentally prepare for the coming performance. Adequate sleep at night and nutrition are also important. It is difficult to focus if you are tired and/or hungry.

Before registering for a jump (writing the name and required information on the manifest list), gather the necessary gear and equipment and notify that you are going to jump. You should try the rig on to be able to make any necessary adjustments in time before going to the aircraft. Practice your performance either independently or with the jumpmaster.

If possible, follow the steering patterns of the previous jump load to find out the effect of the upper and lower winds on steering and landing.

Before going to the aircraft, the jumpmaster will check that you are wearing the rig and other equipment correctly. After the check you are not allowed to set the gear without the jumpmaster's permission. Also, before going to the aircraft, you will be shown the landing pattern based on the prevailing wind conditions. Students are allowed to go to the aircraft only under the jumpmaster's supervision. The aircraft is always approached from the back.

7.1.3 Learning Objectives

The student must reach all the necessary learning objectives to pass each jump.

1. Your chest should remain toward the relative airflow when exiting the aircraft.
2. A stable, symmetrical exit position.
3. Keeping a track of time by counting (3. jump).
4. Seeing the jumpmaster or the aircraft. (3. jump).

7.1.4 Aircraft Procedures

This chapter is a recap of the chapter [3.1.1 Operation in the Aircraft on the page 19](#).

The aircraft is usually boarded in the reversed exit order, which means that the first person to board will be the last one to jump (except for the jumpmaster). Different clubs have their own instructions, which you will be taught about. Always follow your jumpmasters' instructions about boarding the aircraft and moving inside it. The aircraft's center of gravity should stay at a prescribed area for the aviation safety. If the center of gravity differs from the instructions the aircraft can stall and stop flying.

Whenever moving, avoiding any extensions of the aircraft sticking to your gear or equipment. You should particularly protect the parachute ripcord handles, also when other people are moving. If you get stuck somewhere, do not pull anything by force. Instead, let the jumpmaster know about the situation. Avoid any unnecessary movement. Keep your possible seatbelt fastened until the jumpmaster unbuckles it or gives you permission to unbuckle it. If you observe anything unusual in your own or someone else's gear during the flight, let the jumpmaster know about it immediately.

Focus on your own jump. Be considerate in the aircraft, do not disturb the concentration of other skydivers. The pilot is the captain of the aircraft, but the jumpmaster is your captain.

7.1.5 Dive Plan

The jumpmaster will check your gear before the aircraft's door is opened. The door is opened when it is approaching the planned exit place.

You will hear the commands "**OVELLE (to the DOOR)**" and "**MENE (GO)**" and should then act as practiced before. After exit, start counting while the main parachute starts to open and inflates.

1000 (= one-thousand)

- Stay in the X-position, your body arched, or make the delta position with the arch (your legs slightly bent).

1000...5000

- Keep the arch and position.
- The parachute opens, check it and clear it when necessary.

5000

- Glance over your shoulder when necessary.

After the parachute has opened, determine whether it is FLYING / flying-clear it / NOT FLYING, perform the AAHL and start planning the landing.

7.1.6 Exit / Cessna 206

This chapter is a recap of the chapter [3.2 Exit Cessna 206, SL on the page 19](#).

At the jumpmasters "**OVELLE! (TO THE DOOR!)**" command, you must move to the door (low, not hitting your rig to the door) and take the exit position. At the "**MENE! (GO!)**" command, you must push yourself away from the aircraft, arch well in a delta position and begin to count.

Your chest should remain directly in the aircraft's flight direction the whole time. During the exit the ground tends to catch the jumper's eye. If you look down to the ground instead of looking at the aircraft, you are likely to arch in the wrong way. The human body usually turns in the looking direction. Therefore, when you

look up toward the aircraft during the exit, you are arching correctly. Arching begins from the hip (including back and neck). Arching is the main factor in the exit. In the delta position, spread your arms 45 degrees away from your sides and keep your shoulders back. Spread your legs so that the width between your feet is about the same as the width of your shoulders. Your legs should be only slightly bent. It is also important to learn to count from the very beginning, since it is practically the only way of maintaining a sense of time at this stage of the parachuting career. You should count by shouting out loud thousands: One-thousand, two-thousand... five-thousand.” In your exit practices you should start learning the right rhythm: do not shout just numbers but seconds. In the air a few seconds may feel like a very long time.

7.1.7 Exit / Cessna 182 (strut)

This chapter is a recap of the chapter [3.3 Exit Strut Aircraft, SL on the page 21](#).

At the jumpmasters “**OVELLE!** (to the **DOOR!**)” command, you must move to the door. At the “**MENE! (GO!)**” command, you must walk out (low, not hitting your rig to the door) and hang on the strut, let go, keep the good arch and a X-position and begin to count. Your chest should remain directly in the aircraft’s flight direction the whole time. During the exit the ground tends to catch the jumper’s eye. If you look down to the ground instead of looking at the aircraft, you are likely to arch in the wrong way. The human body usually turns in the looking direction. Therefore, when you look up toward the aircraft during the exit, you are arching correctly. Arching begins from the hip (including back and neck). Arching is therefore the main factor in the exit. In the X-position your arms are spread over your head while your shoulders stay back.

Spread your legs so that the distance between your feet is about the same in width as the width of your shoulders. Your legs should be only slightly bent. It is also important to learn to count from the very beginning, since it is practically the only way of maintaining a sense of time at this stage of the parachuting career.

You should count by shouting out loud thousands: “One-thousand, two-thousand... five-thousand.” In your exit practices you should start learning the right rhythm: do not shout just numbers but seconds. In the air a few seconds may feel like a very long time.

7.2 Practice Deployment

The goal of practice deployment (PD) is to learn how to do an independent deployment (ID) according to the counting while keeping your position stable before, during and after the deployment.

Your parachute will open faster on a practice deployment jump than on an automatic deployment jump because of the static line system. However, doing practice deployments is the only way to learn how to perform the necessary moves to deploy a parachute. Despite the parachute opening, the practice deployment moves should be always done in the way practiced before. To get to the practice deployments, you must pass three stable automatic deployment jumps. In addition, you must see either the aircraft or the jumpmaster during your jump, as well as be able to remember clearly both your jump and your body position. After the training, ground exercises and harness exercises you can begin jumping practice deployment jumps.

7.2.1 Learning Objectives

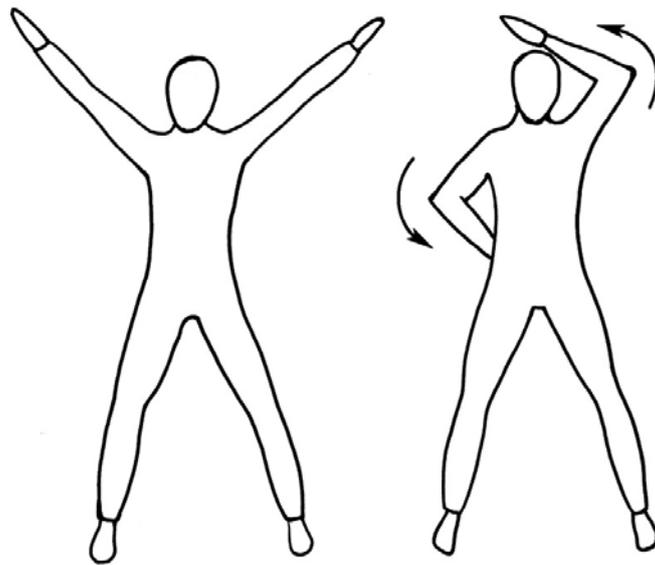
1. Chest facing relative wind during exit. Stable, symmetrical exit position.
2. Arms moving symmetrically when doing the deployment moves.
3. Pulling the practice deployment handle 2–4 seconds after the exit (a clear step just for arching before the pull).

7.2.2 Aircraft Procedures

Whenever moving in the aircraft, avoiding any extensions of the aircraft sticking to your gear or equipment. You should particularly protect the parachute ripcord handles, also when other people are moving. If you get stuck somewhere, do not pull anything by force. Instead, let the jumpmaster know about the situation. Avoid any unnecessary movement. Keep your possible seatbelt fastened until the jumpmaster unbuckles it or gives you permission to unbuckle it. If you observe anything unusual in your own or someone else's gear during the flight, let the jumpmaster know about it immediately.

Focus on your own jump. Consider the other people in the aircraft, do not disturb their concentration. The pilot is the captain of the aircraft, but the jumpmaster is your captain.

7.2.3 Dive Plan



7.1. Symmetric opening from X-position.

ARCH (1000)

- Make the X-position your body arched or make the delta-position and arch (your legs slightly bent).

REACH (2000)

- Left hand over your helmet in front of your body as a natural extension of your body and right hand on the handle, a tight grip.

PULL (3000)

- Pull the handle parallel with a tube or a pocket.
- Return your position to X or delta.

1000

- Start the counting from the beginning after the deployment.

2000–4000

- The parachute opens, check it and clear it when necessary.

5000

- Glance over your shoulder when necessary.

After deciding that the parachute is FLYING, put the practice deployment handle away (under your jumpsuit or chest strap). If you decided that the parachute is NOT FLYING, let go of the practice deployment handle and do the reserve procedure.

7.2.4 Emergency Situations

1. Unstable position: an arm/arms or a leg/legs inside → turning on your side/back → it is possible to get entangled with the opening parachute.
2. Trying to deploy by pulling from a wrong handle: the main parachute is released and the reserve parachute opens, or the reserve parachute opens → the parachutes can get entangled with each other.

READ ALSO THE CHAPTER 10.8 EMERGENCIES (on the freefall) ON THE PAGE 67.

7.2.5 A Practice

1. Rehearse the practice deployment performance by:
 - Doing the practice deployment movements on the ground second-by-second
 - Practicing with your gear on while laying on the ground second-by-second
 - On a practice harness with reserve and emergency procedures.
2. Show the jumpmaster that you can perform a practice deployment.

7.3 Self-deployment 3"

The goal of self-deployment (SD) is to learn how to open your parachute by yourself. In addition to that, you must know the basics of freefalling as well as know how to get rid of turbulence and pack a self-deployment parachute. At this stage you should also recap the reserve procedures ([4.4 p. 40](#)) and what to do when you get entangled with pilot chute's bridle ([5.3 p. 45](#)) or with suspension lines ([5.2 p. 45](#)). Read also chapters [3.5 The Basics of Freefalling](#) and [3.6. Opening the Parachute](#) on the pages 23 and 25 and ask your jumpmaster how the emergency jump procedures change.

To advance to self-deployment jumps the student must pass at least six static line jumps, of which three must also be passed practice pull jumps. After training and both ground and harness practices the student can begin jumping self-deployment jumps. The last practice deployment and the first self-deployment are jumped on the same day or on two following days.

It is important monitor your altitude and maintain your sense of time and position (X and arch or delta and arch) during all self-deployment jumps.

7.3.1 Learning Objectives

1. Maintain a stable position before and during deployment.
2. Deploy your parachute about 3 seconds after exit.
3. Return to a symmetric position after deployment.

7.3.2 Aircraft Procedures

Act as before, remember to protect your main parachutes deployment handle.

7.3.3 Dive Plan

ARCH (1000)

- Maintain your X-position body arched or make the delta position and arch (your legs slightly bent).

REACH (2000)

- Left hand over your helmet in front of your body as a natural extension of your body and right hand on the handle, a tight grip.

PULL (3000)

- Pull the handle parallel with a tube or a pocket. Return your position to X or delta.

1000

- Start the counting from the beginning after the deployment.

2000–4000

- The parachute opens, check it and clear it when necessary.

5000

- Glance over your shoulder when necessary (to get rid of turbulence).

After deciding that the parachute is FLYING, put the practice deployment handle away (under your jumpsuit or chest strap). If you decided that the parachute is NOT FLYING, let go of the practice deployment handle and do the reserve procedure.

7.4 Self-deployment 5”

This will be your second self-deployment jump. Let go of the strut or push away from the aircraft, count 1000 – 2000 – Arch – Reach – Pull. Continue to pay attention to maintaining a stable position also after deployment. Track of time must be maintained better than before.

7.4.1 Learning Objectives

1. Maintain a stable position before and during deployment. Return to a symmetric position after the pull.
2. Begin the deployment procedures within 4–7 seconds of exit and deploy the parachute.

7.4.2 Aircraft Procedures

- Recap the performance in your mind.
- Focus on your performance.
- Check of threes before the exit ([2.6 p. 18](#)).

7.4.3 Dive Plan

ARCH

- Exit the aircraft and make a good arch immediately when you are in the airflow.

1000

- Maintain your sense of time by counting.

2000

- Check your arch and position.

ARCH (3000)

- Maintain your X-position your body arched or make the delta position and arch (your legs slightly bent).

REACH (4000)

- Left hand over your helmet in front of your body as a natural extension of your body and right hand on the handle, a tight grip.

PULL (5000)

- Pull the handle parallel with a tube or a pocket.
- Return your position to X or delta.

1000

- Start the counting from the beginning after the pull.

2000–4000

- The parachute opens, check it and clear it when necessary.

5000

- Glance over your shoulder when necessary (to get rid of turbulence).

After deciding that the parachute is FLYING, put the practice deployment handle away (under your jumpsuit or chest strap). If you decided that the parachute is NOT FLYING, drop the practice deployment handle and do the reserve procedure.

7.5 10"

This will be your first jump on which freefalling speed will grow to its maximum. A correct, stable and symmetrical position as well as a good arch will ensure a good performance.

Deployment procedures begin at 1300 meters according to your altimeter. Track of time is maintained by counting.

7.5.1 Learning Objectives

1. Maintain a stable position before, during and after deployment.
2. Estimate the deployment altitude with the altimeter and begin the deployment procedures at the previously determined altitude.
3. Move from the exit position to the basic freefall position during the jump.

7.5.2 Aircraft Procedures

- Recap the performance in your mind.
- Focus on your performance.
- Check of threes before the exit ([2.6 p. 18](#)).

7.5.3 Dive Plan

ARCH

- Exit the aircraft and make a good arch immediately when in the airflow.

1000–6000

- Maintain your sense of time by counting.
- Keep track of the altitude.

7000

- The freefalling speed is at maximum, relax your position.

1300 meters

- Begin deployment procedures. ARCH.
- Check your arch and position.

REACH

- Left hand over your helmet in front of your body as a natural extension of your body and right hand on the handle, a tight grip.

PULL

- Pull the handle parallel with a tube or a pocket.
- Return to basic freefall position.

1000

- Start the counting from the beginning after the pull.

2000–4000

- The parachute opens, check it and clear it when necessary.

5000

- Glance over your shoulder when necessary (to get rid of turbulence).

After deciding that the parachute is FLYING, put the practice deployment handle away (under your jumpsuit or chest strap). If you decided that the parachute is NOT FLYING, drop the practice deployment handle and do the reserve procedure.

10.8 Emergencies [Very important translation from Part II, Basic Training]

1. Stiffness causes your position to swing (such as a falling leaf) – relax.
2. You cannot control your position and forget to keep track of time.
3. Starting a new movement at a too low altitude.
4. Some of your positions can show your altitude incorrectly or the altimeter is hard to read.
5. Asymmetry causes flat spin (horizontal spin). Make a counter movement. If it does not stop the spin, open the parachute immediately.

Flat spin (Horizontal spin)

- Flat spin is uncontrolled rotation in a horizontal position.
- It is caused by an asymmetric and stiff position or by an uncontrolled turn.
- Flat spin causes you to lose your sense of position and time.
- Stop the spin by relaxing your position and with a counter movement of your shoulder line. If the counter movement does not help and you cannot control your movement, take the basic freefall position, arch, and open the parachute immediately.