

EXCERPT:

**Here are a few pages from each chapter**

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## **Chapter One**

### **Jump? Out of an Airplane?**

Jumping is fun! Skydiving is not just falling, it is flying—the closest we have been able to come to free, unencumbered, non-mechanical individual flight. Nearly everyone flies in his or her dreams; the young idolize Superman while the old admire the birds. Anyone who has sprung from the three-meter board, jumped from the hayloft into a haystack, or even stood on a hill in a high wind with arms outstretched has experienced a form of non-mechanical flight. Skydiving, individual and group human flight, is what this book is all about.

See the equipment chapter and the Glossary in the back of this book for any words that are new to you.

Since skydiving began to catch on as a sport in the late fifties, it has become a well-organized, widely recognized form of aviation activity and is now an established recreational pursuit. Just as airline travel has changed dramatically since its beginnings back in the early 1900s, advances in techniques and equipment have made the sport of skydiving relatively safe and thoroughly fun.

**Equipment.** Sport jumpers wear a highly maneuverable *main* parachute that, when controlled properly, lets them down so softly that they can easily stand up on landing. They usually wear protective clothing: a helmet, a jumpsuit, and perhaps goggles and gloves. They wear an extra *reserve* parachute for the same reason you use a seat belt in your car—for protection in that rare case when something goes wrong.

**Going up.** After you suit up, you climb aboard the aircraft with fellow parachutists for a ride to thousands of feet above the ground. The higher you go, the longer your freefall can be. A common freefall time is 60 seconds, starting from 12,500 feet (approximately 3,800 meters) above the ground (also written as AGL or *Above Ground Level*). Once the aircraft reaches the planned jump altitude, the jumpmaster directs the pilot to fly the plane over the proper point (the *spot*) on the ground so that even with some wind, you can land on target. Then out you go!

**Skydiving.** After leaving a perfectly good airplane, you will accelerate for eleven seconds until you reach about 110 mph downward, which is nominal *terminal velocity*, that speed at which the pull of gravity (force on your body) equals your wind resistance. You will continue to fall at this same speed unless you alter your body position. We will explain why later. Does it feel as if you are falling? No—it's more like laying on a very noisy, partially deflated air mattress. Although you reach 110 miles per hour in a belly-to-earth "stable" (arched) position (or even 200 miles per hour in a head-down dive), you merely feel the pressure of the air against your body. It is a simple matter to use that air pressure to perform loops and rolls and even to *track* (move horizontally) across the ground. Experienced jumpers frequently exit the airplane with fellow jumpers, then by maneuvering their bodies, join in countless formations, and they still have time to move away from each other to open their parachutes in an uncrowded sky.

After checking your altimeter, you end your freefall by deploying your parachute at 2,500 feet (approximately 760 m) AGL. A rustle of nylon and a tug at the shoulders — and then there is the rapid flutter of your slider as you hang it beneath a multi-colored nylon wing for the two to three minute flight to the landing area.

**The canopy ride.** When you deploy your parachute, you suddenly increase the ten square feet of air resistance of your body to approximately 250 square feet of drag provided by a nylon canopy measuring some 11 x 23 feet. This wing-like soft nylon structure descends at 16 feet per second and may be flared like an airplane for a soft, tiptoe landing. The ground below is a panorama of color. The air smells fresh and there is a constant wind in your face due to the forward flight of the canopy.

**Landings** may be like hopping off a cable car or, if you are not from San Francisco, like jumping off the rear bumper of a truck moving slowly at 3 to 5 mph. It is not hard, but tricky because of the horizontal movement produced by the wind and the forward motion of the canopy. As you gain experience, your landings will become softer and more precise. By flaring your canopy at just the right moment, you will land just like a bird on a branch. Skydiving isn't as rough and tumble as its Army Airborne heritage would lead you to believe.

It must be remembered that the combat-scarred airborne trooper jumping into battle is using the parachute only as transportation; for him it is the fastest, safest and simplest way down. His physical conditioning prepares him for the mission, which begins after the jump. Sport parachuting is considerably easier; anyone in reasonably good physical condition may participate.

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## **Chapter Two**

### **Your First Jump and Your Second and Your Third...**

For the first part of this chapter, we will assume that you will be making a static line jump. After those procedures have been discussed, we will cover the major differences associated with an AFF jump. If you are making a Tandem jump, and some 70% of first jumpers do, much of the static line and AFF discussion will apply to you too. The next step is the big one. Now that you have completed both your classroom and outdoor ground training, you are ready for that long, lonely leap. In some ways it is probably unfortunate that the jump won't be as great a thrill as you expected it to be. After reading this chapter and taking the first jump course, it will all seem so simple, more like your second jump than your first — as though you have been here before. This familiarity reflects your understanding and mastery of the basics of sport parachuting that are essential ingredients for safe, enjoyable jumps. It is the purpose of your ground training to simulate, as closely as possible, what you will find in the air. Yes, *the best surprise is no surprise*, particularly in skydiving.

**Equipment** issue. Now that you have completed all the necessary preliminaries, you will be issued your parachutes. There are two of them in that pack; a *main* on the bottom and a *reserve* on the top. If you were not wearing a jumpsuit and helmet for the first jump course, or if this instruction took place on another day, you will get them now. Your jumpmaster, who may or may not also be your instructor, will help you into the 35 lbs. of well-engineered equipment. Most of the weight hangs heavily on the back and tugs at the shoulders as it grips you tightly. It makes you somewhat clumsy as you move about and reminds you what life would be like if you were grossly overweight.

**Equipment check.** No doubt, you and your classmates have been signed up or *manifested* for a separate student flight, so your jump-master will be the only experienced jumper on board the airplane. Later in your jump career, you will share the *lift* with other parachutists of varying experience levels. Your jumpmaster will line you up on the *flight line* for the equipment check. This is where jumping begins to seem sort of military and, indeed, many of sport parachuting's training and jump techniques have been adapted from the armed services. The *equipment*

*check*, or *gear check* as it is commonly called, is the final visual and physical inspection made by the jumpmaster on all parachutists prior to boarding the aircraft. It may be referred to as the JMPI (Jumpmaster Personnel Inspection) or it may even be called a *pin check*, but many things are checked besides the pins. The equipment check is a systematic inspection of the entire parachutist both front and rear, from top to bottom. If for any reason the flight is delayed, the check will be made again. The jumpmaster will present himself for a check by another experienced jumper. The equipment check is so important that there is a complete discussion of it in the equipment chapter.

**Teamwork.** The pilot and jumpmaster work as a team with the pilot being primarily responsible for the aircraft and the jumpmaster taking charge of the contents. While technically, even legally, the pilot is *captain* of the ship, these two must and do work together. Misunderstandings are most easily avoided when the pilot communicates with the jumpmaster, and the jumpmaster directs the rest of the jumpers. Student lifts are pretty routine, so the planning is not complex.

**Aircraft.** Jumps can and have been made from just about every type of aircraft and airplane, but some are much more suitable than others. Since the object of the plane ride is to get up in order to come down, a high-wing model will offer greater visibility in the direction that interests skydivers most. Low-wing airplanes not only have limited downward visibility, they also do not offer exit aids such as a wing strut to grip and a wheel or step to stand on. Most skydiving operations use high-winged Cessnas carrying three to four jumpers and a pilot. You may jump from a low-winged monoplane such as a Piper Cherokee 6 or even a helicopter if you are in a military sport parachute club. For larger team jumps, you may leap from a Twin Otter, Skyvan or DC-3. Whatever the aircraft, you will receive special instruction in boarding and exits.

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### **Chapter Three** **Parachuting Down** **Through the Ages** **A Brief History**

During the last ten centuries, parachutes and skydiving have passed through three basic developmental stages. The earliest occurred before the balloon and other aircraft, before there was an actual need. The second took place during the last three centuries when there was a requirement to be able to escape damaged balloons, airplanes and

spacecraft. The last stage has been taking place from the late 1950s to the present within the sport of skydiving. The sport requires significantly different equipment, and since 1960 there have been more improvements to the parachute than in all previously recorded history.

**1100s.** There is evidence the Chinese amused themselves by jumping from high places with rigid umbrella-like structures. Early accounts are impossible to verify due to the lack of recorded data and it should be noted that most parachutes were one of a kind; there was no standardization until World War I. Further, after careful study, one suspects that many of these early pioneers confused vertical descent with horizontal flight. They probably wished to emulate the birds, not the down of a thistle.

**1495.** Leonardo da Vinci's parachute was pyramid-shaped and was held open by four wooden poles. There is no evidence that he constructed any working models; he left only a sketch.

**1595.** Fausto Veranzio's parachute consisted of a square wooden frame covered with canvas and it is claimed he jumped from a tower in Venice in either 1595 or 1617.

**1687.** One of the earliest written accounts of parachuting comes from Siam. According to the French envoy, one of the king's tumblers would jump from high places with two large umbrellas. The launch point must have been quite high as the wind sometimes carried him into trees, rooftops and occasionally the river.

1783. Sebastian Lenormand jumped from a tower with a 14-foot diameter parachute hoping to perfect a way to escape burning buildings. The Montgolfier brothers made their first balloon flight. Later, the Montgolfier brothers tested various parachute designs. In one experiment, a sheep was safely lowered on a seven-foot canopy.

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## **Chapter Four**

### **Skydiving Emergencies**

#### **Causes, Avoidance and Corrective Actions**

In the sport of skydiving there are a number of possible emergencies, happily all are rare. But since we are dealing with machines (aircraft), new elements (air and altitude), high closing speeds (relative speeds

between freefalling jumpers as well as terminal velocity approaching the ground), mechanical devices (parachutes), obstacles (trees, power lines, etc.), and last but certainly not least, the human element (you and your jumpmaster, pilot, instructor, and others), you must be educated in these areas; you must be properly prepared.

Canopy malfunctions and other emergencies are not common in sport parachuting but if one happens to you, once may be enough. Therefore, in this chapter a disproportionate amount of discussion is being devoted to the problems and a great deal of your training time will be expended on recognizing and coping with emergencies.

Emergency procedures are being given separate treatment here in their own chapter but they are not separate on the drop zone. They are mixed in with your other jump training. In chapter two we told you to do a number of things such as to cover your reserve ripcord handle in the airplane. In this chapter we will explain in detail *why* these cautions are necessary. Not all parachuting emergencies concern parachutes but all do concern parachuting. Injuries may be caused by a crash of the jump plane or a canopy ride into an unexpected pond. In the following pages we will cover everything that can go wrong and explain to you what to do if it does.

Both parachute equipment and skydiving instruction have changed tremendously in the last few years. Now that most parachutists are starting off with more dependable ram-air canopies, piggyback systems, automatic activation devices and more specialized professional training, the rate of injury, both fatal and non-fatal, has dropped and is expected to drop further.

**Fatal injury statistics.** Some statistics will help to orient our thinking. In the United States, over the last several years, an annual average of 29 people have been fatally injured while parachuting. The number rose to 32 in 1997, mostly due to an increase in canopy mishandling.

It must be emphasized that some of the categories listed did not themselves kill; the jumper died for failure to react properly to the situation. See the fatality summary published by the USPA in *Parachutist* magazine each year for the latest statistics. Following are the numbers for 1996.

5% were involved in **freefall or canopy collisions**. Some freefall collisions happen when two or more skydivers run into each other but most occur during opening because the skydivers have not separated far enough after relative work. Jumpers sometimes steer canopies into each other as they converge on the landing area.

15% **failed to pull the ripcord or pulled too low**. Some of these fatalities can be traced to medical problems such as heart disease or a history of blacking out. Others are simply unexplainable because it is impossible to interview the deceased jumper. Some of these fatalities may be due to hard pulls on the main where the jumper simply fails to pull the reserve. Many of the malfunctions that do not result in fatalities can be traced to a lost pull-out pilot chute handle. Other reasons are accidental reserve openings, pilot chute stuck in its throw-out pouch, accidental riser release and premature main opening.

18% had **canopy malfunctions** where the main began to deploy and an equipment malfunction began a series of events that lead to a fatality. Three of the ten malfunctions were *pilot chutes in tow* where the pilot chute was deployed but the main canopy remained in, or partly in, the main container. Fortunately ram-air *square* canopies are less malfunction prone (one out of maybe 700 jumps) than round canopies (one out of about 250 for the Para-Commander class round). In fact, Roch Charmet of France made his first 5,000 jumps on a square without a malfunction.

**Reserve-use statistics.** There are also some interesting statistics on reserve use. One DZ reported just two cutaways for 4,862 first jump students. And, those minor malfunctions were due to line twists. Square canopies are very reliable compared to the rounds we used to use.

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## **Chapter Five**

### **Your Freefall Progression**

Your progression after the first jump will depend upon whether you enrolled in the static line program, Accelerated FreeFall program, or have made Tandem jumps, possibly as part of the Tandem and Instructor Assisted Freefall program. AFF and Tandem took hold in the '80s, and toward the end of the decade the static line program was accelerated too. It used to take a minimum of 24 jumps in the static line program to progress to 60-second freefalls; now it is possible to make them after just fifteen. In May of 1995, USPA's Safety and Training Committee finalized a Tandem & Instructor Assisted Freefall Training Syllabus Outline that incorporates Tandem and AFF jumps into one program.

Since Tandem jumps may be substituted for initial static line or AFF jump training, we will first discuss static-line jumping and then follow with an outline of progression in AFF. Later we will cover more advanced flying techniques.

Each static line or AFF lesson is a phase of instruction. Each lesson includes five basic skill areas: Equipment Preparation, Performance Preparation, In Flight (the ride in the aircraft), Freefall, and Canopy Control/Landing. Each phase expands and builds upon the knowledge and skills required of each previous jump, so correct performance is required for advancement to the next phase. Your ground school instruction will come from a rated instructor with a static line, IAD, AFF, or Tandem rating specific for the classroom work you are taking. Each of your jumps will be directly supervised by a rated jumpmaster (or instructor) with the appropriate S/L, IAD, AFF, or Tandem rating until you no longer require formal instruction.

**Static line and IAD progression.** After your first jump, your introduction to sport parachuting, you will make more static line jumps (a minimum of five in all), before being advanced to freefall. In some countries, 20 or 30 *rope* jumps used to be required to assure that the student will pull the ripcord once on freefall, but in North America we have always required just five. The smaller number has not only proven sufficient, it is less apt to discourage the novice who is anxious to progress.

Your jump progression was discussed earlier. It is being repeated here in detail to provide you with a step-by-step guide. Use it to practice your count.

**Basic orientation** (two jumps). The first two jumps are with a static line or IAD from 3,000 feet above ground level (AGL). In ground review sessions, you will demonstrate that you have learned how to control your main parachute, demonstrate the ability to distinguish between a good canopy, a partial malfunction, and a total malfunction, and demonstrate emergency procedures, including the use of flotation equipment. You will physically rehearse all routine phases of the planned jump and demonstrate proper responses to any emergencies that could occur during the flight or jump. During the ride up, you may be asked to identify the drop zone, target and windsock from 2,000 feet or higher, as well as to point out the wind direction and explain your planned flight pattern. On these jumps, you will show that you know how to move about the aircraft and get into the door, you will demonstrate the proper sequence and body position to perform a stable, controlled exit, along with a verbal count and canopy check. After exit, you will be required to

perform a proper arch (the *stable body position*) and you will look up to visually check your canopy within six seconds of exit.

Under the canopy, you will release your deployment brakes and follow the flight plan you established earlier while responding to directions from the ground crew. Your major turns will be performed above 500 feet. You will land in a clear area with your feet and knees together, prepared to perform a parachute-landing fall (PLF). Immediately after landing, you will get to the downwind side of the canopy to avoid being dragged by the wind. Any jump not executed correctly may have to be done over.

This sounds like a great deal to learn, and it is. But you will be trained in the first jump course and will receive more training prior to each succeeding jump. Make use of your free time by asking questions of the instructional staff and reading this book. There is a lot to learn and that is one thing that makes sport parachuting so interesting.

**Practice RipCord Pulls or Practice Pilot Chute Toss (PPCT)** (three jumps). PRCPs are static line or IAD jumps from 3,000 feet AGL. You will learn more about the inspection and donning of your equipment, and you may use a horizontal trainer, a hammock-like device, to practice your stable face-to-earth body position. On the horizontal trainer, you will practice the ARCH, LOOK, REACH, PULL sequence for pulling the practice ripcord. That sequence goes as follows:

ARCH THOUSAND: Arch hard. Your instructor may want you to assume an arched but not spread position. Your elbows are bent 90 degrees with your hands about a foot away from your ears. Throw your shoulders back (up) and arch hard so that your hands are higher than but not out in front of your head.

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## **Chapter Six**

### **Your Canopy Progression**

Flying a ram-air canopy is a great deal of fun. In fact, students today cannot appreciate how good they have it. Modified round canopies have a forward speed of only 5 to 7 mph, depending upon your weight, and they let you hit the ground so hard your feet sting. Sport round canopies such as the Para-Commander class have a forward speed of between 10 to 14 mph, depending upon your weight and their construction. Ground contact with them is not as hard as a round when they are handled properly. Rear risers can be pulled down during the last few feet of the

descent to get some minor decrease in the descent speed. Fortunately, you will not be using rounds or even PCs as main canopies during your training.

**Flying the ram-air canopy.** Basic flying was covered in Chapter Two. Now ask for and read the flight manual that came with the canopy you are using, talk to the experienced jumpers at the drop zone, read this chapter and look into some of the books listed in the Appendix.

Get to know your canopy and its capabilities. Try a fast 360-degree turn by holding one toggle full down. Fly at full glide (toggles up), one-quarter, half and three-quarter brakes. Hold each position for several seconds and notice the amount the canopy slows down. Hold both toggles at chest level and then let one up. Compare this turn to one in which you push one toggle 3/4 to all the way down while holding the other toggle in the half brakes position. These turns from half brakes will be flatter, slower, and more stable than a fully depressed toggle turn from the full-flight position and they will lose less altitude. Canopy familiarization should be conducted above 2,000 feet (and breakaway altitude). At 1,000 feet you should be entering your landing pattern.

If you would like to check your angle of glide at each brake position, spit into the air and watch its angle of fall. Spit with the toggles up and spit again with the toggles down. Always spit to the side — never *into* the relative wind — otherwise

your saliva will just come back on you! A ram-air canopy flying through the air may be thought of as a boat moving through a wide river. Think of the wind as the current and the canopy as a boat. A boat moving upstream might have the throttle wide open and yet make little headway relative to the shore because of the strong current. On the other hand, when the boat turns to run downstream at the same throttle setting, its speed relative to the shore is quite high. The same principle applies to parachute canopies holding against the wind or running with the wind.

**Spotting** is the selection of the course to fly on jump run, directing the pilot on that course and deciding on the correct point on the ground over which to leave the aircraft in order to land in the target area. There is more to spotting than just

looking down since a good spot depends upon the direction and speed of the wind as well as several other factors.

Now that everyone is using high-performance canopies, spotting has almost become a lost art. Exit point selection is sometimes so bad that even ram-air canopies are unable to bring the team back to the drop zone. Knowing how to spot will make you a lot more popular while it adds to your skydiving education.

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## **Chapter Seven**

### **Skydiving Equipment**

Skydivers wear two parachutes, a *main* and a *reserve*. The reserve, which is usually worn on the back above the main, is carried along in case the main malfunctions.

Main parachutes are not 100% reliable; if they were, there would be no need for the reserve. But, like the automobile, there are very few unexplainable mechanical failures. Parachute malfunctions can usually be traced to the human element, specifically: packing, body position at pull time, or poor pre-jump inspection. Consequently, while you may be packing your own main parachute, your reserve will be inspected and repacked every 120 days by a government-licensed parachute rigger. Your instructor or jumpmaster will carefully supervise your static line and freefall progression. They will train you, test you, and you will undergo a rigid equipment check prior to boarding the jump ship. The key to success and enjoyment in sport parachuting is knowledge; you will want to learn as much as possible about the equipment right from the very beginning.

**The parts of a parachute.** The parachute assembly is a train of interrelated parts that are carefully engineered into a chain. To keep the weight and volume to a minimum, each part is made just strong enough (plus a safety factor) to handle its share of the opening forces.

The six *major* components of the **sport main parachute** are:

1. Pilot chute, with bridle.
2. Deployment device: bag with retainer line, diaper, etc.
3. Canopy, including suspension lines, slider and risers.
4. Harness, including hardware, ripcord pockets, etc.
5. Container.
6. Actuation device: ripcord, pull-out handle, throw-out handle, static line, etc.

The six *major* components of the **sport reserve parachute** also consist of a pilot chute, deployment device, canopy, harness, container and actuation device, but the harness and (two compartment) container are shared with the main parachute. Technically and legally (according to the Federal Aviation Administration) the harness and container are part of the *reserve* assembly and the six reserve components are tested together.

The non-certificated main pilot chute, deployment device and canopy are going along for the ride.

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## **Chapter Eight**

### **Specialized Jumps**

To most people, a parachute jump is a parachute jump, and it is pretty scary at that. To a seasoned skydiver, there are as many types of jumps as there are ignorant people. You can make low ones or high ones, on land or in the water, at noon or after dark, carrying smoke on a demo or a camera to record your friends, singly or with a team, out of a plane or a balloon, practicing for the Competition Style event or—the list is endless. And, while this book deals with the parachute principally as a means of recreation, no book would be complete without a mention of the many other uses. The military airborne troops and the fire-fighting smokejumpers use the parachute for quick vertical transportation; military aviators use the parachute as survival equipment and, of course, it is used to drop equipment, to slow racecars, etc. In the next few pages, we will examine some of these other uses of the parachute.

**Night jumps** are not only fun to make, they often turn an otherwise dull evening into a great skydiving social occasion. After jumping, it is time to party. Night jumps are more than just an extension of daylight jumping, because of the added

preparation that is required. One must have lighted instruments, a flashlight to check the canopy after opening, a light visible for three miles (FARs) which may be a flashing red warning light, a strobe light, or something of equivalent visibility, lighted target, lighted wind drift indicator, additional ground crew, etc. So it is no wonder that night jumps are made less than regularly. Since two night jumps (one solo and one.RW) of at least 20 seconds duration are required for the USPA D License, most drop zones schedule them two or three times a year. You will not be eligible to make a night jump until you have your USPA B License, but you may attend the ground training any time. For further details on night jumping, consult USPA's *Skydiver's Information Manual*, "Section 9-1."

**Water jumps** are a great combination of aviation and water sports, something you will want to do at least once every summer. While unintentional water landings have taken a number of lives, pre-planned water jumps have a good record. Both planned and unplanned, water jumps terminate in the water. But just like the survival scorecard for

each of them, the approach to them is different. (Review the discussion in Chapter Four.)

When you plan to go into the water, you need less protective clothing, and want to avoid a soggy jumpsuit that will make swimming difficult. So chute up in a helmet, T-shirt, swim suit, running shoes (you might miss the lake) and a life vest. Freefall without your familiar jumpsuit will be interesting; there is very little air drag on the extremities and you will probably flail about trying to grab some air.

Do not subject your good ram-air main canopy to water. The water will increase the permeability of the fabric. Water jumps are a good opportunity to try a round canopy.

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## **Chapter Nine**

### **Advancement in Skydiving**

Now that you have made your first jump and admit to being hooked, it is time to plan where you are going. Many roads to sport parachuting advancement are open to you. You may qualify for awards for a number of jumps, time in freefall and various types of jumps. You may enter competition as a contestant or judge, become an instructor or run for office. There are many avenues and you may decide to pursue one, many or all of them. Some roads do not even require jumping participation, but all demand dedication to a great sport.

This chapter explains each of the roads to advancement. For more information, see the references listed in the Appendix such as *The Skydiver's Information Manual* (SIM).

**Licenses.** The USPA issues four classes of parachuting licenses recognized by all member nations of the Fédération Aéronautique Internationale. With a license, you may travel and jump almost anywhere in the world. See the *Skydiver's Information Manual*. The requirements for each class of license follow.

#### **—3-1.06 USPA A License—Basic (20)**

Persons holding a USPA A License are able to jumpmaster themselves, pack their own main parachute, perform basic relative work and water jumps, and have:

- A. Completed 20 freefall jumps, including:
  - 1. At least 3 controlled freefalls of 40 seconds or longer;
  - 2. Accumulating 5 minutes of controlled freefall time.
- B. Landed within 20 meters of target center on 5 freefall jumps, during which they selected the exit and opening points.
- C. Demonstrated ability to hold heading during freefall and make 360-degree flat turns to both the right and left.
- D. Demonstrated the ability to safely jumpmaster themselves, to include independently selecting the proper altitude, exit and opening points.
- E. Demonstrated ability to properly pack their own main parachute and conduct safety checks on their own, and other skydivers' equipment.
- F. Documentation of unintentional water landing training from a USPA Instructor.
- G. Demonstrated the ability to safely engage in relative work by:
  - 1. performing satisfactory door exits;
  - 2. varying both rate of descent and horizontal movement;
  - 3. participating in at least three 2-way RW jumps;
  - 4. moving horizontally away from other skydivers in freefall and checking the air so the parachute may be deployed without creating a danger of collision with other jumpers; and keeping track of other canopies in order to avoid collision.
- H. passed a written examination administered by a USPA Instructor, S&TA, or BOD member.

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## **Appendix For More Information**

### **Skydiving Centers**

Drop zones are located all over the world. To find the one nearest you, look under "Parachutes" and/or "Skydiving Instruction" in the *Yellow Pages* of your telephone directory.

A good jumpoff place on the web is the Para Publishing site at <http://www.ParaPublishing.com>. It will lead you to all the drop zones, associations, manufacturers, dealers and so on.

### **Resources**

Skydiving associations around the world  
Parachute equipment companies  
Books on parachutes and skydiving  
Skydiving magazines and newsletters

USPA publications  
FAA publications  
Skydiving videotapes  
Skydiving schools  
Skydiving Web sites

**Glossary**

**Index**