

## **Tandem Training Flights**

### **1. Meeting place**

We will agree to the time and place where the tandem will take place.

### **2. Paperwork and legal details**

At the flying site, the STU will read and execute our release of liability and waiver (RWA). If it is a non-powered flight, the STU will also complete a (30) day temporary membership application in USHPA, our national paragliding organization, read and execute the [USHPA](#) RWA, and read and execute the [PASA](#) RWA.

The PIC will inform the STU of the FAA requirements for tandem flights which operate under a special exemption granted by the FAA as follows.

For powered flights: All flights operating under this exemption must be for training purposes only. This exemption applies only to flights for the purpose of giving instruction in foot-launched, two-place powered paragliders. Prior to all two-occupant training flights, the student must be informed that the flight is conducted under an exemption granted by the FAA and that the foot-launched, two-place powered paraglider does not meet aircraft certification standards set forth by the FAA.

For non-powered flights: For training purposes only -- this exemption applies only to flights for the purpose of giving instruction in two-place unpowered ultralight vehicles from USHPA-approved launch sites. Both occupants on all two-place training flights must possess a current pilot rating issued by the USHPA and at least one occupant must possess a current USHPA Tandem instructor rating. Prior to all two-occupant *training flights*, the student must be informed that the flight is conducted under an exemption granted by the FAA and that the ultralight vehicle does not meet aircraft certification standards set forth by the FAA. Both occupants on all two-place flights, *other than for training purposes*, must possess a current pilot rating issued by the USHPA and at least one occupant must possess a current Tandem Pilot rating issued by the USHPA.

### **3. How the tandem flight works.**

Here are the general elements involved in a tandem training flight and what will be discussed prior to launch.

- Physical, emotional, psychological condition. Fear, anxiety, knowledge.
- Introduction to equipment. Harness, helmet, reserve, glider, radio, proper clothing, footwear, instruments, pre-flight check.
- Theory of flight. Aerodynamics, airspeed, wing loading ground speed.
- Meteorology. Micro, Macro, effect on flight.
- Equipment use. Harness, leg loops, chest strap, karabiners, hook in.
- Launch practice. Simulate launch, run with student, feel resistance.
- Practice type of launch. Forward or reverse.

- Pre-flight check. Glider layout, leading edge, trailing edge, lines, risers, cells.
- Harnesses on. Hook in, buddy check.
- Wind. Direction, speed.
- Airspace. Launch run, gliders on ground and in air.
- Clear, Launch.

#### **4. Launch details**

We will be connected all together. At the launch area, the PIC will attach the tandem glider to the tandem bar and STU and will inflate the tandem glider overhead. Both the PIC and the STU will be roughly parallel to the glider overhead. When the glider is stable and the PIC knows everything is ready to go, he will instruct the STU to turn towards and run to the target. As we move faster and faster, the glider will begin to lift us up. It is IMPORTANT that the STU continue to run and NOT sit down in the harness. The STU will only stop running when the glider is 20' or so in the air. This is because the glider may settle back down to the ground and if the STU is not running, the PIC will have to abort the flight. The STU must think of only two things: RUN, RUN, RUN towards the target.

#### **5. Fitting the tandem harness and helmet on the passenger.**

After completing the paperwork and briefing, the PIC will fit you with the special tandem harness, a helmet, and (if it is a powered tandem) a radio. Powered tandems require a special helmet and radio so that the STU can clearly hear the PIC give commands.

#### **6. Connection to the tandem bar**

Prior to launching, the PIC will connect the STU to the tandem bar and engage in a simulation of the launch with the STU. The PIC will stand behind the STU and give the commands to run and go towards the target, as if launching. This way, the STU will have an idea of how the harness and bar feel and what he must do to successfully help launch the tandem. After the simulation and at the area of launch, the PIC will carefully connect the STU to the tandem equipment and do a [pre-flight check](#) for the STU and himself. The pass harness, the tandem bar, the PIC harness (and paramotor if a powered tandem), and glider are all connected together.

#### **7. Launch**

Be as relaxed as you can. It helps you do the right thing! Remember that you are flying with a professional who knows what to do. While on the ground, it is very important that you remember to move with the pilot in command (PIC). Wherever he goes, you go. If you feel the harness and tandem bar pull back, move back. If to the side, go that way. Do not resist moving around when connected to the PIC, it makes things more difficult for everybody.

- Target: The passenger must have a TARGET to run to. The pilot in command (PIC) will tell you what that is, usually an orange cone place 50 yds. or so in the direction we need to launch.
- Run: For a powered tandem, the tandem "bar" surrounds the passenger and he must hold the bar tightly, bringing it towards the waist, and, on cue from the PIC, PUSH hard against it and RUN like you are being chased by rabid rabbit! Both the PIC and the STU will run as hard as they

can. For non-powered tandems, there is no bar but there are handles on the harness that the STU holds tightly and pushes forward on. This helps get the glider to flying speed. The harder the passenger pushes against the bar, the sooner we get into the air. You must run towards the target and NOT stop until you are well into the air, about 20' above the ground. The tandem could sink back to the ground and you must be ready to run again! If you DO stop, the PIC will have to abort the flight.

- Harness: Once in the air, you can get comfortable in the harness, if needed, by using your thumbs hooked to the front lower corners of the harness and then pushing your rear all the way back into the harness.
- Aborting the flight: If at any time, the STU wants to land, indicate by giving a "thumbs down" gesture. The PIC will take note and land the the glider as soon as possible.

## **8. Flight**

It is important to relax and enjoy the flight! Here are some elements of the flight itself.

- Terrain Clearance. Steep slope, shallow slope, trees, rocks, cliffs.
- Weather Changes. Thunderstorm, showers, wind.
- Flight patterns. Right of Way rules.
- Safety during flight.
- How to turn. Weight shift, brake toggles, riser turns.
- Student can feel controls and handle brake toggles.
- Student pilots condition. Airsick, comfortable, fear, anxiety?
- Type of turns. 360, 180, 90. Steep turns, flat turns, bank angles
- Glider orientation. Pitch, roll, yaw.
- Air Traffic. Planes, hang gliders, paragliders, UAVs.
- Turbulence. Rotor, mechanical, thermal, wake.
- Areas to avoid. Terrain hazards, turbulence.
- Landing. By choice or by necessity.
- Landing sequence. Figure 8, s-turns, Standard Aircraft Approach.
- Final Approach. Legs down, stand up in harness. Flare and run.

## **9. Landing**

- Stand up: On cue from the PIC, stand up as best you can in the harness.

- Start gently waving your legs back and forth to train your brain that you will run when landing. If it is a powered tandem flight, the PIC will TURN OFF the engine when about 100' in the air. Sometimes he will turn it off much earlier.
- It looks like we are coming in screaming fast. We ARE. But just a few feet above the ground and before we touch down, the PIC will start slowing the glider down. This includes our vertical descent. You will not "face plant" nor injure yourself, even though it seems that way.
- When you feel your feet just touch the ground, begin really running. We will stop in just a few feet and ALL will be well.
- On cue, the PIC will ask you to "TURN LEFT!" or "TURN RIGHT!" You will turn about 90 degrees to one way or the other. If you get the LEFT/RIGHT mixed up, it really does not matter. Just TURN so that the PIC can safely bring the glider down and we minimize the change of being dragged.
- Unhook and clear landing area

### **10. Flight debriefing**

The PIC and the STU will discuss the flight in detail.

- Point out launch
- Show flight path
- Where to learn. USHPA approved school
- What's the next lesson.
- You invited to come back for more instruction.
- Care of equipment. Folding up.

The PIC will help the STU to enter the flight in his log.

That's it! Tandems are a tremendous amount of fun and a great way for anyone to learn the basics of how to safely fly a paraglider. The more the student cooperates, the better he will learn and the more fun it is!

AT ANY TIME DURING THE TANDEM, THE STUDENT MAY INDICATE THAT HE WANTS TO LAND BY GIVING A "THUMB DOWN" GESTURE. THE PIC WILL LAND AS SOON AS POSSIBLE.