USPPA High Wind Rating

2012-06-01 Knowledge and Requirements. PPG 3 or higher is prerequisite.

This is intended for pilots who have mastered strong wind operations and knowingly accept a high level risk.

Minimum wind: Skills must be demonstrated in at least a **15 mph average wind**.

It is acceptable to demonstrate using a kiting harness except for one full launch and landing using a motor as described below in the minimum wind.

Part of the knowledge requirements are met by passing the test associated following this document with 100% correct answers.

Depowering & Securing

Demonstrate:

1. Two ways of deflating including one using just the brakes.
2. One way of securing the wing.
3. One way of disabling the wing if getting dragged (may be verbally explained).

There are many ways to depower and secure a wing; our objective is not to require any particular technique but to make sure the pilot has mastered at least 2. At least one method must use just the brakes since they're the most likely control that will already be in hand.

Once the wing is depowered, running to grab a wingtip then going hand over hand to hold the center cell works to completely subdue it.

One way of deflating with the brakes: Pulling brakes with the wing under tension will just get the pilot dragged downwind. To get around that is, in one quick move, let up on the brakes while squatting down to make the wing overfly. Just before it front tucks, stand up quickly and pull FULL brakes, as far as possible. It will yank briefly as it comes down, nearly stalled, through the power zone.

One way of securing the wing: Pull the D's in as far back as you can and put them in one hand. While holding the D's back with that hand. Reach around with your free hand to grasp all the lines, thereby holding the D's in their pulled condition. Now rosette the wing—the pulled D's will help keep it from reinflating.

Pilots must demonstrate or explain at least **one emergency method of disabling the wing if they start getting dragged**. For example, pulling one brake, hand over hand, until holding tip fabric.

These specific techniques they are offered only as options. Whatever methods you employ, they must be demonstrated in the minimum wind and be effective. The demonstration can be done using video if the administering instructor accepts that and it must clearly show consistent high level control.

Cautions & Considerations

Demonstrate

1. Knowledge of risks inherent in high wind operations, when they start, what can happen, and how to mitigate them.

There is great risk in a high wind operations, especially in congested areas, and even for skilled pilots. Winds can change, controls can slip out of hands, and other mistakes can snatch up an unwary pilot. Before hooking in, know how to depower the wing, have a clear downwind area in case you get dragged, and have one hand either in the brakes, the D's or some other way of keeping the wing depowered while you get ready.

The primary risks are:

1. Getting lifted and slammed into the ground.
2. Getting dragged into/through an obstruction (pick a good site).

3. Line burns or lines caught on some part of your body.
4. Spectators who are too close beside or downwind of the wing.
5. Strong winds means more turbulence from upwind obstructions traveling much farther downwind.
6. Strong winds aloft or an unexpected increase may prevent landing back at the launch site and may result in landing backwards.

Preparing in a High Wind

Demonstrate

1. At least one way to prepare your wing for inflation.
2. One other way to prepare your wing for inflation (may just explain).

There are several ways to lay a wing out in high wind. You chosen method must allow getting the wing ready so that it does not blow away or curl up before hooking in.

Among several methods of getting the wing out in a strong wind is to lay it with one tip upwind and put something on it that will roll off during inflation. Another is to leave it mostly rosetted so the wind doesn't catch the openings.

Inflation

Demonstrate

1. Demonstrate control over when the inflation without front tucking at the top.
2. Demonstrate one method (such as using the D's) to minimize getting lifted as the wing comes overhead.
3. Demonstrate the ability to maintain control while getting lifted. This can be demonstrated with a kiting harness only.

At least one method must use the brakes to show that you can still control it with just the brakes in your hands. There are better methods, but it sometimes happens that a pilot only has the brakes in their hands when trying to inflate and it is desirable to be able to manage that situation.

There are several inflation techniques, including the Cobra (wing starts upside down), or bringing only a tip up from a rosette, or more standard inflation using A's and D's. Use what works but make sure you've mastered it.

The applicant must demonstrate the ability to slide during the inflation so that the wing does not overfly. while minimizing getting lifted (normally using the D's instead of brakes). He must handle getting lifted while maintaining control either by staying reversed, or landing forward, turning around, and regaining control of the wing. For anybody who is going to fly in strong conditions, they must expect to get lifted periodically and must know how to handle it, preferably by remaining reversed the entire time.

Launch

Demonstrate

1. At least one high wind launch with the motor using no outside assistance.

You must do the inflation while clearly in control, followed by a turn around using power where control is never in doubt. You must demonstrate a short period of standing there (5 seconds), clearly under control and with the motor powered up enough to stay in place before lifting off.

A few pilots do the turn-around without power. That's extremely difficult on some machines (and very bad on backs) which is why we require demonstration of doing the turn-around where you power up during the turn. It's not to dictate how anybody does it out in the field, but to insure they know how to handle high winds on most machines they'll encounter.

Landing, Deflation and Securing

Demonstrate

1. A high wind landing with controlled turn-around, deflation and securing of the wing. The demonstration should include several repetitions of the turn-around where control is never in doubt.

2. Demonstrate or explain a technique for doing this without power.

One technique is to land power on, continue kiting forward with power then, when the wind has died down slightly, turn around and deflate. This lets you choose the turn-around time. But it means you're vulnerable for a longer time so it's valuable to learn how to turn around withOUT having the motor running. One method is to land with knees bent, then stand up and turn around. The act of standing up gives something to push against since the wing may be lifting.

Helpers

Actions

1. Explain or demonstrate the use of helpers, showing familiarity with how to brief them along with the relevant cautions.
2. Explain the various risks to helpers and pilot.

The pilot must either demonstrate or show knowledge in the use of helpers.

1. Brief the helper(s) on the severe propeller risk involved and how they must not be near the pilot or spinning motor.
2. Brief the helper(s) that, if they are helping during kiting, not to hold the pilot solidly but must let him slide during inflation.
3. Brief the helpers that, if things go awry, they should grab a wingtip and bring it to the pilot if its safe to do so (motor not running).
4. How to have helpers hold the wing, for example, by holding a wingtip until the pilot is ready.
5. How to have helpers depower the wing for the pilot after landing, for example, by taking the brakes and walking upwind of the pilot.

Carts

The high wind rating is available for cart pilots but is more difficult since you have less freedom of motion. Wheel pilots must demonstrate these skills, in an actual high wind, on a cart which will require being able to do reverses. Both applicants and instructors administering the rating must be aware of the high likelihood for rollover and downwind drag. Pick the location accordingly with enough well-briefed helpers to handle it.

Expectation

An applicant for this add-on is expected to have good, consistent control as necessary for the conditions being demonstrated in. Periodic mistakes are to be expected but, in general, the pilot must show competent control that is never in jeopardy.

It is extremely dangerous to work towards and exercise this skill. Having a suitable location and expert instruction certainly reduces the risk but there's no eliminating it.

High Wind Skills Test

1. When operating in high winds, your primary site concern should be:

answer) Having a clear downwind area in case you lose control.

2. Operating in high winds is:

answer) dangerous even for pilots with appropriate skills.

3. Risk Begins:

answer) when you clip into a wing.

4. One way of preparing a wing in high wind is to:

answer) lay the wing out parallel to the wind and put something on the upwind tip.

5. In an emergency, one way to secure the wing is:

answer) Get a hold of tip fabric then pull the wing's center towards you.

6. Getting lifted when inflating in high winds is more likely if:

answer) you use the brakes insteas of the rear risers.

7. After inflation, power should be applied

answer) as you turn around to face upwind.

8. In a strong wind, especially with turbulence, you are less likely to lose control if you land:

answer) with power.

9. If you're using helpers during kiting, they should:

answer) let you slide during inflation.

10. Your helper briefing should include that, if you lose control, they should:

answer) try to grab a wingtip and walk it towards you.

11. Handling high winds in carts is:

answer) much more difficult.