

Jumping With Zero Off

Written by Freddy Krueger

By now many of you are probably sitting in front of a fireplace watching it snow, while others are simply dealing with a brisk chill in the air. Either way...it's the off-season. But rather than write another article about riding your skis or giving you more plyometric drills to work on this winter, I thought I'd try something different. 2009 will see Zero Off as the primary system for the jumping event and I'd like to give the jumpers out there a factual account of how the system works and how it is different from the Perfect Pass system. This information can also be found on the Zero Off Web site (zerogps.com), but let me try to put it into "jumper language" and see if we can't get everyone ready for a great 2009.

With Zero Off, there are three factors that affect the jump pull. You will have

same speed increase. The reason for this difference in RPMs to achieve the same speed increase can be due to the different weight of the jumpers, how hard they cut, or even how late they cut. This is why with Perfect Pass the 200-pound jumper may not receive as much acceleration as a 100-pound jumper on the same letter because the boat didn't know there was a difference between the two jumpers.

The power index is probably the most misunderstood part of Zero Off for jumping. The power index is a number between 0 and 15 and has a similar job as the "RPM Adjust" in Perfect Pass, but with one key difference. With a lower power number, the boat's entry speed into the course is slower and with a higher power number, the boat's entry speed will be higher. With Perfect Pass, one of the issues

a faster than actual time and the driver will then take the letter down, thus giving the jumper their appropriate letter value.

For a 5.7-liter engine boat, Zero Off recommends a power index of 6 or 7 as a starting point because the smaller engine boats will not have quite enough power to pull a mid- to advanced-level jumper actual times at the number 4. A power index of 4 is considered the "optimal" pull for a 6.0-liter boat that is currently in use for our sport. For each number higher than 4, the boat will enter the course slightly faster. This means that there is a little less room for acceleration or speed swing, but for weaker boats this is necessary to achieve actual times.

The numbers 0-3 have been a source of confusion for some people. These numbers have the same entry speed as the number 4, but for each number you go down from 4, you are decreasing the amount of speed increase at rope switch engagement. This means that as you turn to the ramp, you will get less speed increase out of the turn so that the boat has "room" to accelerate off the second wake. These numbers are in the system for the boat of the future that we haven't seen yet. A boat with 500 horsepower or an 8.1-liter engine will need to be tamed down out of the turn or it won't be able to give any gas to the bottom. If you are currently jumping with a power index number of 0-3, you are not doing yourself any favors. In my opinion, you would be better off to go to the number 4 and try lowering your letter.

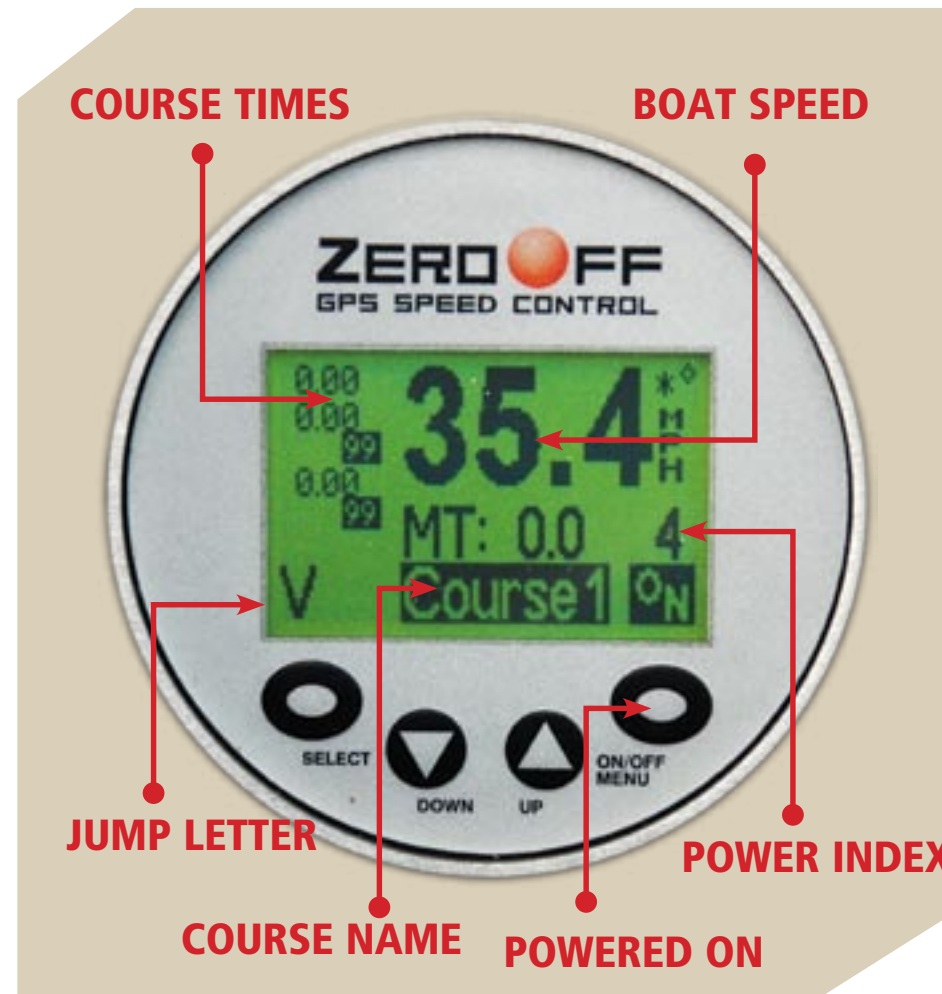
Now that you understand what the letters and power index do, let's look at what the system is doing during a normal jump. When you are outside the jump course and you pull on the boat, the rope switch will close and give you a "bump" in speed that is associated with the letter you

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the letter, the power index number, and of course the jumper.

Let's start with letter selection and how that affects the pull. The primary difference between the two systems is that Perfect Pass assigns an RPM value to a letter and Zero Off assigns a speed increase. The reason this is important is that for a given letter one jumper may need 700 RPMs to achieve the speed increase, while another jumper may need 900 RPMs to achieve the

was the inconsistencies of using the "RPM Adjust" to help skiers get balanced times. If a jumper chose a letter that was too high for their ability, the driver had little choice but to compensate by taking "RPM Adjust" down. With Zero Off, the power index is meant to eliminate this inconsistency by establishing a minimum entry speed into the course, which is achieved at the number 4. With Zero Off, if a jumper asks for too high of a letter, the system will get



have chosen. With Perfect Pass the boat had no idea what was happening until the rope switch closed. If you figure it takes 100 pounds of pressure for the switch to close, that means that the boat is guaranteed to start "behind" the jumper and therefore must add an abundant amount of RPMs to catch up. Zero Off, on the other hand, can detect the smallest amount of deceleration in speed as you begin your turn and then as the jump switch closes it begins the ramping process as you cut to the jump. In the hand-driving days a good driver would look over his shoulder and anticipate the jumper as they began their turn and then really start getting into the gas as the jumper finished his or her turn. This is essentially what Zero Off is doing by reacting to the deceleration of your turn prior to the rope switch closing. This ability of the boat to not get behind the jumper out of the turn has really helped the lesser-powered boats give a stronger pull. And by not getting behind the jumper out of the turn, the RPMs saved on the first side of the wakes can be given on the second side of the wakes equating to more pull through the ramp.

Once the jumper has begun turning and the rope switch has closed, the

system begins a ramp-up process that is associated with the letter that you chose. As you approach the wakes, the second and biggest difference of Zero Off comes into effect. Since the time the boat has entered the course it has been keeping track of where it is in the course. When the switch closes, the system takes note of where you turned from and compensates the ramp value for where you turned. So if you are a novice jumper and you chose the letter "V," which is too high for you, and engaged the rope switch at 48 meters into the jump course, you will not receive the same type of ramp rate that I would get if I engaged the rope switch 60 meters into the jump course on the same letter. The later you are, the more the system must compensate for your cut because you will be loading the boat more. When the rope switch closes as you turn to the jump the boat will begin to calculate what it must do to achieve an actual time. So as you land off the second wake, there is a "window" of acceleration allowed to make the time. In other words, Zero Off will give you a little more or a little less gas to make an actual time depending on hard you cut.

With Zero Off it is important to find the right combination of letter and power index number and then learn to get a little later so you can work harder to the ramp. Because Zero Off can adapt to your more aggressive cut, you will be rewarded unlike what we have become accustomed to in the past where there really was no reason to cut later as you were only going to get the acceleration that was assigned to your letter regardless of how much work you actually did. In my opinion, you want to make sure the boat is having to work at its maximum allowed "window of acceleration" into the bottom of the ramp. For a starting point, I tell people to allow the driver to set the power index as close to number 4 as he/she can still get good balanced first and second segment times. Then you should choose a letter that gives you an actual or preferably .01 slow of actual when you have a good aggressive cut. If you are getting times that are on the fast side of actual, then that tells you that the boat is not having to work at its maximum allowed level into the bottom and you either need to cut later/harder or lower your letter.

I hope all of you enjoy your 2009 jump season and enjoy the pull you are getting behind Zero Off. Be sure to check out the Web site for answers to questions on how to use the screens, mapping and other instructional tips.

Freddy Krueger, who lives and trains in Winter Garden, Fla., is the current world record holder in men's jumping. He is sponsored by MasterCraft Boats, D3 Skis, Body Glove Wetsuits, OJ Props, Masterline Ropes and Zero Off GPS Speed Control. Visit his Web site - thenightmare13.com.

