

WHAT TO EXPECT - YOUR FIRST FTP TEST!

FUNCTIONAL THRESHOLD POWER TEST

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There are numerous articles regarding How to Perform an FTP test [\[1\]](#), but not much on (a) prepping for or (b) what to expect from your first FTP test. This is surprising since these are the two questions I always get from new clients.

In this short article, I will share many of the points discussed. At the end of this article, I will also include the FTP test protocol.

First, **Functional Threshold Power**, is defined as *"the highest power that a rider can maintain in a quasi-steady state without fatiguing for approximately one hour. When power exceeds FTP, fatigue will occur much sooner, whereas power just below FTP can be maintained considerably longer [\[1\]](#)."* Since it is difficult to find a road that has no signals, no stop signs, no traffic, etc., a more popular definition is that of the above except *"20 minutes less 3-7%"* is substituted for *"one hour."*

The **20-minute** test is a good estimate of your hour power and is currently what most coaches recommend, and athletes perform. But, there are also two variations that might be worth considering;

- **30-minute test** - where your average power for 30 minutes will be a close estimate of your actual FTP
- **2 x 8-minute test** - where you take the higher number between two back-to-back 8-minute efforts then subtract 10%. The process; ride all-out for 8 minutes, rest for 10 minutes, ride all-out for another 8 minutes.

Once your FTP is calculated, it is easy to determine your training zones as **%FTP**. A training plan can then be created based on the athlete's goals and workouts can be created based on the %FTP value. Workouts can be either (a) created 'manually' or, (b) via a more 'automated method' such as Training Peaks structured workouts (Workout Builder) and/or Workout Creator in Zwift where the power required to perform the efforts is dynamically calculated based upon the athlete's FTP.

DISCUSSION - BEFORE YOU TAKE THE TEST

- You will need a power meter and a head unit to display (a) your power and (b) a timer.
- Before you start the test ZERO your power meter.
- Be forewarned that this is a **VERY HARD** test.
- You have the option of taking the test either **outdoors** or **indoors**. Some coaches say that you will get slightly different results outdoors (on your bicycle) vs indoors (on a trainer) [\[3\]](#). For your first time, it helps to perform the test on a trainer with a coach supporting you. A coach will be able to keep you motivated throughout the entire test. On several occasions I have had athletes ready to give up with less than 5 minutes to go. With a coach by their side motivating them, they completed the full 20-minutes and were very pleased with the results. I am convinced that if they would have done the test on their own, their numbers wouldn't have been as high or worse, they would have quit prior to the end.

- Again, be forewarned, this is a **VERY HARD** test.
- With that said, it is important to note that you will likely need to take the **FTP test 3 times**. More specifically, once a week for 3 weeks. Why? Most “first-timers” push way too hard and blow up halfway through. The second time they usually hold-back too much ending up with energy left to spare. The third time is usually the charm.
- Often, this is referred to as a “20-minute FTP Time Trial.” Don’t let that title fool you. **This is NOT a SPEED test, this IS a POWER test**. So, for this test, it’s OK to place your hands on the tops of the bars. It’s OK to sit up to allow your diaphragm to work easier getting air in and out of your lungs. In fact, sitting up is preferred. Remember, **it’s NOT about SPEED, it’s ALL about consistently generating as much POWER as you can for the entire test**, whether that be 60 minutes, 30 minutes, 20 minutes or 2x8 minutes.
- Study Table 1. FTP TEST PROTOCOL. I have included 2 additional columns at the right side of the table called FOR FIRST TIME and SECOND TIME. For those that will be taking the FTP test for the first time, your effort is based on a scale from 1-10 of PERCEIVED LEVEL OF EFFORT where 1 is EASY and 10 is MAXIMUM+. For the second time, you will have FTP data that you can display and track to for this test.

TAKING THE THRESHOLD TEST ^[1]



After a good warm up, get yourself mentally ready, take a few deep breaths and get yourself up to speed. Click START on your GPS head unit and ride as hard as you can for 20 minutes. **It’s not about speed, it’s all about power**. If your head unit has an FTP test function, then just use that, otherwise, use the lap timer function.

When the timer gets to 20 minutes, press stop and take note of your AVERAGE POWER. Since this was a full-out maximum run, your AVERAGE POWER will be your AVERAGE MAXIMUM POWER.

For a 20-minute test, take this number and multiply by 0.95 as this is generally the average (5% off) for most people and will be close to your one-hour power. Again, I recommend doing the FTP test 3 times, once per week for 3 weeks.

From this point on, you will create your power zones and start training as a % of FTP. But, not to worry because in 6 to 8 weeks you get to do this test all over again! The workout shown above is an actual FTP test.

FTP TEST			FOR FIRST TIME	SECOND TIME
ACTIVITY	TIME	DESCRIPTION	PERCEIVED EXERTION 1-10	% of FTP
Warm up	20 min	Easy riding	5	<65
	3 x 1 min (1 min RI)	Fast pedaling, 100+ rpm	4	<50
	5 min	Easy riding	5	<65
Main Set	5 min	All-out	10	max
	10 min	Easy riding	5	<65
	20 min	FTP TEST	10+	max
Cooldown	15 min	Easy riding	5	60
Stretch	20-30 min	Lower back, lower body	n/a	n/a

Table 1. FTP TEST PROTOCOL

References:

1. "What is FTP", Hunter Allen - <http://www.hunterallenpowerblog.com/2013/01/what-is-ftp.html>
2. "Power Terminology For Cycling", Training Peaks - <https://www.trainingpeaks.com/blog/power-terminology-for-cycling/>
3. "Adjusting Your Functional Threshold Power for Indoor Riding", Hunter Allen - <https://www.trainingpeaks.com/blog/adjusting-your-functional-threshold-power-for-indoor-riding/>
4. "Training and Racing with a Power Meter – 2nd Edition", Hunter Allen - <http://www.shop-pcg.com/product.scjsessionid=7859A33EE76424AFDD6C2EEA33EB74F7.p3plqscsfapp005?productId=42&categoryId=1>

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